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NATIONAL UNIVERSITY

HEARINGS

BEFORE THE

COMMITTEE ON EDUCATION.

HOUSE OF REPRESENTATIVES.

SIXTY-THIRD CONGRESS

SECOND SESSION

ON

H. R. 11749

A BILL TO CREATE A NATIONAL UNIVERSITY AT THE SEAT OF THE FEDERAL GOVERNMENT

No. 1

STATEMENT OF

HON. S. D. FESS

A REPRESENTATIVE FROM THE STATE OF OHIO

FEBRUARY 2, 1914

WASHINGTON
GOVERNMENT PRINTING OFFICE
1914

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COMMITTEE ON EDUCATION.

HOUSE OF REPRESENTATIVES, SIXTY-THIRD CONGRESS.

DUDLEY M. HUGHES, Georgia, *Chairman.*

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J. THOMPSON BAKER, New Jersey.	EDMUND PLATT, New York.
JOHN R. CLANCY, New York.	ALLEN T. TREADWAY, Massachusetts.
THOMAS C. THACHER, Massachusetts.	SIMEON D. FESS, Ohio.
STEPHEN A. HOXWORTH, Illinois.	ARTHUR R. RUPLEY, Pennsylvania.

JAMES L. FORT, *Clerk.*

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NATIONAL UNIVERSITY.

COMMITTEE ON EDUCATION,
HOUSE OF REPRESENTATIVES,
Monday, February 2, 1914.

The committee met at 11 o'clock a. m., Hon. Dudley M. Hughes (chairman) presiding.

The CHAIRMAN. Mr. Fess desires to be heard on his bill (H. R. 11749) to create a national university at the seat of the Federal Government.

STATEMENT OF HON. SIMEON D. FESS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OHIO.

Mr. FESS. Mr. Chairman, this month there will be a great assemblage of educators in Richmond, Va., it being the occasion of the meeting of the superintendents' section of the National Education Association. They will be only a little distance from here, and I believe a good many of them would be glad to come before our committee on this matter, if we could give them a chance to be heard, not as advocates of any particular measure but rather as interested in the subject.

The CHAIRMAN. We will undoubtedly give them the chance, and will be very happy to have the opportunity of hearing them.

Mr. FESS. I think, if it would be agreeable, we could have our meetings in the caucus room of the House Office Building, because there will be probably 30 or 40 of them, too many to get into this room.

Mr. PLATT. I think it would be a good plan for us to have a big hearing somewhere.

Mr. FESS. These people are among the greatest educators in the country. It seems to me it would be a good thing for the work we are trying to do to have such talent before us for our enlightenment.

The CHAIRMAN. Undoubtedly. We hope that you will see to it that those gentlemen will honor us with their presence.

Mr. FESS. I will be very glad to do what I can to bring it about.

My bill is H. R. 11749.

(The bill is as follows:)

[H. R. 11749, Sixty-third Congress, second session.]

A BILL To create a national university at the seat of the Federal Government.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there shall be established at the seat of the Federal Government of the United States an institution of higher learning, to be known as the National University of the United States.

SEC. 2. That the purpose of said university shall be threefold.

First. To promote the advance of science, pure and applied, and of the liberal and fine arts by original investigation and research and by such other means as may appear suitable to the purpose in view.

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Second. To provide for the higher instruction and training of men and women for posts of importance and responsibility in the public service of State or Nation, and for the practice of such callings and professions as may require for their worthy pursuit a higher training.

Third. To cooperate with the scientific departments of the Federal Government, with the colleges of agriculture and the mechanic arts founded upon the proceeds of the Federal land grant of the act of eighteen hundred and sixty-two, with the State universities, and with other institutions of higher learning.

SEC. 3. That no student shall be admitted to the university unless he shall have obtained the degree of master of science or of master of arts from some institution of recognized standing, or shall have pursued a course of study equivalent to that required for such degrees.

SEC. 4. That the university shall confer no academic degrees.

SEC. 5. That the university shall be governed and directed by a board of trustees in cooperation with an advisory council.

SEC. 6. That the board of trustees shall consist of the Commissioner of Education of the United States and twelve additional members appointed by the President of the United States for a term of twelve years. The appointed members shall be arranged in classes, so that the term of one member shall expire each year. The President of the United States may at any time remove any member of the board for neglect of duty or malfeasance in office.

SEC. 7. That the advisory council shall consist of one representative from each State in the Union. The representative from each State shall be the president or acting president of the State university in case there be a State university in said State; if not, the governor of the State may appoint a citizen of the State, learned and experienced in matters of education, to represent said State in the advisory council.

SEC. 8. That the board of trustees shall make all statutes, by-laws, and general rules in accordance with which the affairs of the university shall be conducted. But all such statutes, by-laws, and general rules shall, before going into effect, be submitted to the advisory council for its consideration. If the advisory council shall, by a majority vote of all the qualified members, disapprove of any such statute, by-law, or general rule, it shall not go into effect until it shall have been reenacted by a two-thirds vote of the board of trustees: *Provided*, That if the advisory council shall take no action within six months after submission of such statute, by-law, or general rule, the said statute, by-law, or general rule shall go into effect: *Provided further*, That the advisory council may at any time take up the consideration of such statute, by-law, or general rule, and if it disapprove of the same the said statute, by-law, or general rule shall cease to be in effect from and after six months from the date of such action unless the board of trustees shall in the meantime have reenacted such statute, by-law, or general rule by a two-thirds vote: *And provided further*, That in case the advisory council shall disapprove of any statute or other action of the board of trustees the said board shall, before taking final action in the premises, give a formal hearing to a representative or representatives appointed by the council for the purpose of presenting the matter to the consideration of the board.

SEC. 9. That the board of trustees shall provide for the administration of the affairs of the university within the statutes thus enacted. It shall make all appointments and all assignments of funds. It shall issue all orders and instructions necessary to the management of the university. It shall provide suitable grounds and buildings for the work of said university; but in no case shall it incur financial obligations in excess of actual appropriation by Congress, or of actual income from tuition, fees, endowments, or gifts for special purposes. The actual administration of the university shall be intrusted to properly qualified agents of the board, who shall be responsible to the board for the performance of their duties. The board may delegate by statute to a president of the university, or to such separate faculties or other officers or employees as it may provide for, such functions in the administration of the university as may seem to it wise; and it may reassign such functions at any time. It may create such boards or commissions as in its judgment may best serve the interest of the institution and may abolish them at will. But the advisory council may at any time protest against any order, vote, resolution, appointment, appropriation, or instruction made by the board of trustees. In such case said order, vote, resolution, and so forth, shall stand suspended until the board of trustees shall, by a two-thirds vote, reenact such order, and so forth.

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SEC. 10. That the advisory council may at any time make recommendations to the board of trustees respecting any matter concerning the university, and it shall be the duty of the board of trustees to give formal consideration to all such recommendations and to take such action in the premises as may seem to it good.

SEC. 11. That no member of the board of trustees or of the advisory council shall receive any pecuniary remuneration for his services as member of said board of trustees or advisory council; but the necessary expenses incurred by members in attendance upon meetings of said board or advisory council shall be defrayed by the university.

SEC. 12. That the board of trustees and the advisory council shall elect their own officers and define their respective duties, and a majority of each shall constitute a quorum to do business.

SEC. 13. That the board of trustees shall meet in regular session four times each year, namely, on the first Wednesday after the first Monday in January, April, July, and October. Special meetings may be called at any time by the chairman and shall be called by him on request of five members of said board. One month's notice shall be given in case of all special meetings. The advisory council shall hold two regular meetings in each year, during or immediately following the regular meetings of the board of trustees in January and July. Special meetings may be called by the board of trustees, by the chairman of the advisory council, or upon the request of ten members of the advisory council. One month's notice of all special meetings shall be given.

SEC. 14. That the board of trustees may accept unconditional gifts, legacies, donations, and so forth, from private individuals for the benefit of the university; but no such gift, donation, or legacy shall be accepted with any condition unless the same shall be approved by the board of trustees, the advisory council, and the Congress of the United States.

SEC. 15. That the various museums, libraries, bureaus, observatories, and departments of expert research belonging to the Federal Government shall be open for the use of graduate students without interference with the real function of such establishments.

SEC. 16. That the sum of $500,000 is hereby appropriated for the uses of said university for the fiscal year nineteen hundred and fourteen and nineteen hundred and fifteen.

SEC. 17. That the board of trustees shall, as soon as the members shall have been appointed, proceed to organize under this act and carry out the intent and purpose of the same.

Now, my interest in the national university dates away back. I noticed in my study and teaching of history how Gen. Washington had yearned for such an institution. You know he recommended it at different times to Congress, and he had even gone so far as to select or suggest the selection of a site, which is now called University Place here. He died in 1799 leaving in his will 500 shares of Potomac stock which was estimated to be worth $25,000. It is said that if that $25,000 had been put at compound interest and kept intact it would amount at the present time to $4,000,000. The matter had been officially looked up to ascertain where that $25,000 has gone. The Treasury Department investigated it in accordance with an official request and reported the opinion that it must have lapsed back into the estate. I will insert this report:

[Senate Document No. 164, Fifty-eighth Congress, third session.]

TREASURY DEPARTMENT,
OFFICE OF THE SECRETARY,
Washington, February 15, 1905.

SIR: I have the honor to acknowledge the receipt of Senate resolution of the 14th instant—

"That the Secretary of the Treasury be directed to inform the Senate what was the amount of the bequest made by George Washington to the United States for the foundation of the university and what appropriation was made of it."

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In reply thereto I have the honor to state that in the will of Gen. George Washington (see Sparks's Writings of Washington, vol. 1, pp. 571 and 572) a bequest of 50 shares of the Potomac Co. of the value of £100 is made for the establishment of a university in the District of Columbia, but there is no record in the Treasury Department showing that the shares thus bequeathed or any moneys arising therefrom were ever received by the General Government.

Mr. Worthington C. Ford, formerly Chief of the Bureau of Statistics, this department, published a volume in 1891 containing the will of Gen. George Washington, and in connection therewith states that the object of this bequest was never carried out (Wills of George Washington and his Ancestors, by W. C. Ford, Brooklyn, 1891, pp. 91 and 92).

In a treatise entitled "Authenticated copy of the last will and testament of George Washington, of Mount Vernon," published by A. Jackson, of Washington, D. C., in 1898, Appendix, pages 10 and 11, referring to Gen. Washington's wish that a university be established in the District of Columbia, it is stated that "This desire was never carried into effect, and the 50 shares thus donated reverted to the estate."

The two publications above mentioned are to be found in the Library of Congress.

Respectfully,

L. M. SHAW, *Secretary.*

The PRESIDENT OF THE SENATE.

The CHAIRMAN. There should be some official record of it.

Mr. FESS. There certainly should be, but that is the best we can get. This plan of establishing in the capital here, or wherever the capital was to be, a national university was discussed in the Constitutional Convention, the Federal convention in 1787, and it was decided unnecessary to put the authority in the body of the Constitution because it was said it could be done without that. Then when Adams came to the Presidency he recommended it, and when Jefferson succeeded Adams he recommended it. Jefferson had gone so far as to suggest to Gen. Washington that the faculty of Geneva College be transferred bodily to this country, and that we build a university from that as a starter. Then James Madison recommended it three times in three different messages to Congress. James Monroe recommended it also. John Quincy Adams, one of the best scholars of the early times, though not a better trained thinker than Jefferson, was very enthusiastic for it. Andrew Jackson also favored it.

Mr. RUPLEY. What happened in the American Congress on these propositions?

Mr. FESS. Well, each time the recommendation was acted upon, but it was lost between the committee's recommendation and the final action of the Houses. For instance, the three District of Columbia Commissioners, that organized this District, in accordance with an act of Congress recommended it, as did Gov. Brooke of Virginia. Various committees recommended it to Congress from time to time, but it was always lost. It was never acted on favorably in any of these bodies so far as I know up to the time I have mentioned. Then, just preceding the Mexican War there seemed to be other interests coming in and the university proposition was forgotten. It was revived—Mr. Clancy will be interested in this—by a group of men who finally abandoned the idea of locating it here and wanted to locate it in New York State, and the college at Albany, called Union College, is the outcome of it.

Mr. CLANCY. I never knew that.

Mr. PLATT. That is at Schenectady.

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Mr. FESS. Perhaps so, I understand from reports it is at Albany. This is the outgrowth of the national university movement when its promoters finally abandoned hope of locating it here; but that effort failed to accomplish what they hoped it would do, and then came the Civil War and broke up everything. The war as a result is a striking comment upon the sentiment of the Farewell Address in 1796 of Gen. Washington. His idea was to have the national university here because it would act as a means of cementing together the various sections of the country, and he urged this in his historic Farewell Address, his last will and testiment to his people. That a national university located in the Capital City where the students from all over the country could come and listen to the debates in Congress, would be the strongest cementing element in the Nation and would prevent dissension among sections, can be of little doubt to the careful student of our country.

Mr. PLATT. Was not one of these institutions here in Washington organized with a view to developing into a national university?

Mr. FESS. Yes, sir.

Mr. PLATT. What was the old Columbia College and what is now called George Washington University?

Mr. FESS. I have not gone into the history of these institutions. The people enthusiastic for the university idea had hoped something of that kind would grow out of these institutions, but, of course, there is no hope of that at all.

Mr. PLATT. I do not know what the history of these colleges is.

Mr. FESS. Well, I have gone into that far enough to find it is all very confusing. Whatever might have been the cherished hopes of the builders of these various institutions it must be apparent that it is futile to expect a consummation of the project from these sources.

Mr. PLATT. Columbia Heights is apparently named from the fact that Columbia College used to stand there.

Mr. FESS. I am not sure about that.

Mr. PLATT. John Burroughs told me that when he was in Washington in the sixties or seventies Columbia College stood right there.

Mr. FESS. Gen. Grant was moved upon by some of the highest educational interests and he made a recommendation reviving the idea of a national university. His recommendation was followed by a similar one by Gen. Hayes, and that was followed by Garfield, and that, in turn, was followed by Harrison. Then Cleveland's Secretary of the Interior, Mr. Lamar, who was really at the head of the education department since the education department is a bureau under the Department of the Interior, took the matter up and made quite an exhaustive study of the university proposition and made a strong recommendation, as the head of the Interior Department, to President Cleveland. That was between 1885 and 1889. During this time the two Houses were not active on the subject. However, in 1869 or 1870, the National Education Association took it up, under the leadership of Rickoff, of Ohio. A report was written by John Wesley Hoyt, who labored here in Washington so long. Gov. Hoyt had made a thorough study of the university movement in Europe, and when he returned he published his findings with recommendations as to what this Nation should and could do. Then, again in

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1871, it was taken up by the National Education Association, and through its efforts a bill was finally introduced in the House of Representatives to establish the national university.

The CHAIRMAN. When was that?

Mr. FESS. That was in the forty-second Congress, 1872–73. The bill was unanimously reported from the committee, on which appeared such names as George F. Hoar, of Massachusetts; McIntyre, of Georgia; R. P. Elliott, of South Carolina; Butler, of Tennessee; etc.; but it died in the House, notwithstanding the exhaustive report touching upon the needs and possibility of such an institution. Then the National Educational Association continued to make its recommendations year after year but with little effect. The leading college men of the country, including the then heads of Yale, Columbia, and Thomas Hill, of Harvard, urged it. Finally in 1890 Senator Edmunds, who is still living, introduced a bill in the Senate, and had it referred to a special standing committee called the National University Committee. That committee was composed of Senators Edmunds, Sherman, Blair, Ingalls, Dolph, Harris, Butler, Gibson, and Barbour. I understand the Senate still recognizes this special standing committee, which is not so active in recent years. Senator Edmunds was the leader in that movement. The committee unanimously reported the bill out of the Senate. That is as far as it got. In 1893 it reported the bill again; in 1894 it reported the bill again; and again in 1896, 1899, and 1902. It reported the bill in the Senate five times, but that was as far as it could get.

[Senate Report No. 1384, Fifty-second Congress, second session.]

The Select Committee to Establish the University of the United States, to whom was referred the bill (S. 3824) to establish a national university, having considered the same, report:

The value of knowledge is recognized in all civilized countries, but in no country does it deserve higher recognition than in our own, for our Government is founded upon it, and we need it everywhere and all forms of it for our highest development. Hitherto there has been practical recognition of this in the United States in providing for State universities, for schools of agriculture and the mechanic arts, for military and naval schools, for the Department of Agriculture and the different surveys, and for great libraries. It is the purpose of this bill to make such organization more complete and more worthy of a great and progressive people by creating at the Capital of the Nation one supreme institution that (1) shall complete the system of American education by supplying the crowning and true university it lacks, both as a means of furnishing upon American soil every possible facility for the highest available culture, and of exciting a stimulating and elevating influence upon all classes of schools of lower rank; (2) that shall bring together in friendly as well as high intellectual intercourse a large number of the most gifted and aspiring representatives of all the States for the pursuit of the highest knowledge in all departments of learning, thus supplying in endless succession the best trained thinkers and workers for every field of intellectual activity, and with broader views of men and things, as well as increased love of country and a juster regard for the citizens thereof, irrespective of locality, and thus more certainly assuring to the United States their proper place in the forefront of advancing nations.

That there has ever been in the past a deep realization of our deficiencies in this field is manifest:

First. From the great number of the ambitious young men of the country who, from the beginning, have been accustomed to go abroad for opportunities they could not find at home.

Second. From the zealous and repeated efforts of many of the foremost scholars, scientists, and statesmen to have in this country at least one post-graduate university of the highest possible grade.

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Third. From the many honorable, but still inadequate, efforts of existing institutions, and of large-minded, philanthropic men to meet this demand by increase of endowments devoted to proper university work.

Fourth. From the strong declarations repeatedly made by individual citizens and organized bodies of men most competent to judge, that when all shall have been done that can be through individual and denominational agencies, it will still be the high duty and interest of the Nation itself to establish and liberally endow an institution of such rank as is proposed by this bill.

Such an institution only could in any proper sense complete the now incomplete system of American education and most wisely direct all worthy efforts in the field of original research and utilize the facilities for it so rapidly accumulating at Washington.

Such an institution only could possibly become the long-deferred realization of the aspirations and official appeals of those profoundly wise founders of the Republic, some of whom not only outlined the principles upon which it should be established, and the relations it should sustain to the Government and people, but also devised for it sources of revenue, and set apart lands of the District of Columbia deemed suitable for the location of its buildings.

The proposed bill is intended to represent and give fruition to the plans and desires of Washington, Jefferson, Madison, and other Presidents, together with a multitude of citizens in other high stations. It was prepared with the concurrence of citizens most competent to advise in such matters, and not only the ends sought to be attained, but also the means and agencies to be employed have received the sanction of many of the foremost scholars and statesmen of all portions of the country.

It provides for the establishment of a university of the highest type, resting upon the State universities and other institutions of collegiate rank as they rest upon the high schools and academies—a university whose facilities shall be open to all who are competent to use them, but whose degrees shall be conferred upon such only as have already received a degree from some institution recognized by the university authorities; whose opportunities are to be open without price to qualified representatives from every State and congressional district of the United States; whose several departments shall have endowed fellowships, open to persons of genius from whatever quarter of the world, for the advancement of knowledge by means of original researches; to whose professors, fellows, and students, all Government collections, literary, scientific, and practical, are to be freely open without detriment to the public service; and whose several heads of departments are to have advisory and cooperative relations with the heads of Government bureaus for the mutual advantage of the Government itself and the cause of universal science.

The plan of government for the university seems well calculated to keep the institution in close relation with the people of all sections and yet safe from the dangers of political interference, while at the same time leaving the internal affairs and whatever is most vital to its welfare in the hands of those who are at once most competent to manage them and have the largest stake in its prosperity.

As a partial provision for the location of the necessary buildings the bill grants the site selected for this purpose by President Washington in 1796, and now, since the removal of the Naval Observatory, without important use; and for the support of the institution sets apart one-half the net proceeds of the public lands, one-half of such half to be used currently in providing for the opening of the institution and for carrying it on, the remainder to accumulate in the Treasury of the United States as an endowment until competent to yield a sufficient revenue, together with the gifts and bequests that may be attracted to it, for the permanent support of the institution.

Your committee are of the opinion that the cause of American learning demands such an institution as this bill provides for; that the highest dignity and welfare of the Nation demand it; that it should be established at the Capital of the country; and that after a delay of 100 years since it was first proposed and sought to be established by the founders of the Government it would be unworthy of so great a people to wait longer for a more favorable time in which to meet all these high demands.

The committee, therefore, unanimously approve the bill and recommend its passage.

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[Senate Report No. 433, Fifty-third Congress, Second Session.]

The Select Committee to Establish the University of the United States, to whom was referred the bill (S. 1708) "to establish a national university," having considered the same, report as follows:

The need of such an institution as the bill contemplates seems to your committee beyond question, since, in the language of its author and in the purpose of the multitude of its learned supporters, the University of the United States is to be, not an institution of the same type as even the greatest of existing universities, either American or foreign—

"But rather an institution broader in its scope, more complete in its organization, more philosophic and practical in its internal regulations, with the highest possible educational standards and aims; an institution above and beyond the best of the colleges with their loosely attached professional schools, and on its own higher plane existing for the extension and diffusion of all branches of useful knowledge; an institution where the love of knowledge * * * shall be fostered and developed; where advanced students devoted to any branch of knowledge, whether science, language, literature, or philosophy, or to any of the combinations of these constituting the numerous professional courses of instruction, shall intermingle and enjoy friendly intercourse as peers of the same realm; where the professors, chosen from among the ablest and best scholars of the world, with aboslute freedom of conscience and of speech, shall be not teachers of the known merely, but also earnest searchers after the unknown and capable, by their genius, enthusiasm, and moral power, of infusing their own lofty ambition into the minds of all who wait upon their instruction; a university not barely complying with the demands of the age, but one that shall create, develop, and satisfy new demands and aspirations, that shall have power to fashion and mold the age unto its own ideal, and which through every change and every real advance of the world shall still be at the front, driving back from their fastnesses the powers of darkness, opening up new continents of truth to the grand army of progress, so leading the Nation forward and helping to elevate the whole human race."

In the opinion of your committee such an institution should be deemed necessary, first of all, on account of the supreme work it would do in every division of the purely educational field—work at present but very partially and scatteringly done at those few institutions so fortunate as to have a concurrence of competent men with the means requisite to the support of systematic courses of postgraduate instruction.

(2) It would powerfully contribute to the improvment of the whole series of schools of the country from the kindergarten to the university.

(3) It would correlate broaden, elevate, and strengthen the entire circle of the so-called professions, not only furnishing but indirectly elsewhere compelling better preparation for professional studies, with higher standards of professional attainment, and hence broader and more thorough courses of instruction.

(4) It would prove a most important means of supplying to a multitude of industrial occupations the scientific principles requisite to their highest success, thus dignifying labor and building up many new professions.

(5) It would enlarge the field of human knowledge by means of the original researches and investigations of its members, while, at the same time inducting students of genius into the art of investigation, thus helping mankind to an earlier mastery over the hidden forces of nature.

(6) Such an institution would prove a powerful defender, as well as discoverer and teacher of truth.

"Among its members there would always be moral heroes as superior to the menaces of power as to the insidious arts of the most skillful and corrupt devotees of false gods—men able to unmask error and bold to stand for the right at all hazards. The sacredness of truth, freedom of thought, and freedom of speech will be the inscription upon its portals. It will be not a light-house only, but a bulwark of liberty and a watchtower for the Nation and the world."

(7) The proposed university is also a patriotic necessity. It would secure to us as a great people the independence we need in things intellectual. It would strengthen our love of country, and so prove a new and powerful safeguard of free institutions. It would gather to its seat not only persons of genius and of lofty aspirations from all portions of the Union, but from all parts of the civilized world, thus at once stopping the present exodus to foreign institutions for advantages we do not here furnish and turning the tide of superior learning to our own shores. It would help the United States to a commanding

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influence as a beneficent power among the nations; to a practical leadership in the march of civilization.

For these important reasons the establishment of such an institution as the one now proposed has been in the minds of the foremost scholars and statesmen of our country from a period anterior to the adoption of the American Constitution.

We find that Gen. George Washington considered the subject and predicted the establishment of a national university when in his military camp at Cambridge in 1775; that James Madison, John Adams, Charles C. Pickering, Benjamin Franklin, William Samuel Johnson, James Rutledge, and others, realizing its importance and being unwilling to trust to the chances of future legislation, strongly favored provision for it in the Constituion itself; that upon the failure of this proposition in the convention,[1] solely because a majority deemed it an unnecessary encumbrance of that instrument, Dr. Benjamin Rush, signer of the Declaration of Independence and the leading American scientist of his time, eloquently pressed the subject upon the country in an address to the people of the United States, saying:

"Let one of the first acts of the new Congress be to establish within the district to be allotted them a Federal university, into which the youth of the United States shall be received after they have finished their studies and taken their degrees in their respective States. * * *

"Let it not be said this is not the time for such a literary and political establishment. Let us first restore our public credit. * * * Let us regulate our militia, let us build our Navy, and let us protect and extend our commerce. * * * This is false reasoning. We shall never restore public credit, regulate our militia, build a Navy, and revive our commerce until we remove the ignorance and prejudices and change the habits of our citizens."

It was in this great interest that Thomas Jefferson, afterwards its supporter as President, while yet Vice President (in 1795) even went so far as to propose the importation of a learned faculty from Geneva, as a means of beginning the work of such a university.

It was because of his continued and ever-deepening interest in the early founding of the institution that President Washington, having consulted with James Madison and Edmond Randolph, announced to the commissioners of this District, in 1795, his purpose to contribute a considerable sum, in stocks of the Potomac Co., toward the founding of a university peculiarly American in character, saying:

"For this reason I have greatly wished to see a plan adopted by which the arts, sciences, and belles-lettres could be taught in their fullest extent, thereby embracing all the advantages of European tuition with the means of acquiring the liberal knowledge which is necessary to qualify our citizens for the exigencies of public as well as private life, and (which with me is a consideration of great magnitude) by assembling the youth from the different parts of this rising Republic, contributing from their intercourse an interchange of information to the removal of prejudices which might sometimes arise from local circumstances."

It is known that he actually did contribute a sum which, had the purposes of the giver been carried out, would now have amounted to over $4,000,000; that in the preparation of his farewell address, in 1796, he set apart the 19 acres of land long known as "University Square" as a site for that institution; and that in his final message to Congress he said, among other things, on this head:

"I have heretofore proposed to the consideration of Congress the expediency of establishing a national university and also a military academy. The desirableness of both these institutions has so constantly increased with every new view I have taken on the subject that I can not omit the opportunity of once for all recalling your attention to them. The assembly to which I address myself is too enlightened not to be fully sensible how much a flourishing state of the arts and sciences contributes to material prosperity and reputation. True it is that our country, much to its honor, contains many seminaries of learning, highly respectable and useful, but the funds upon which they rest are too narrow to command the ablest professors in the different departments of liberal knowledge for the institution contemplated, though they would be excellent auxiliaries. Among the motives to such an institution, the assimilation of the principles, opinions, and manners of our countrymen by the common education of a portion of our youth from every quarter will deserve attention,

[1] Madison Papers, II, 740; III, 1354, 1577.

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The more homogeneous our people can be made in these particulars the greater will be our prospect of permanent union; and the primary object of such a national institution should be the education of our youth in the science of government. In a republic what species of knowledge can be equally important, and what duty more pressing on its legislature, than to patronize a plan for communicating it to those who are to be the guardians of the future liberties of the country?"

We also find that immediately after this last appeal of Washington the commissioners appointed under the act to establish the temporary and permanent seat of the Government of the United States, presented to Congress a memorial in this same behalf, urging the importance of the project, and especially saying:

"We flatter ourselves it is only necessary to bring this subject within the view of the Federal Legislature. We think you will eagerly seize the occasion to extend to it your patronage, to give birth to an institution which may perpetuate and endear your names to the latest posterity."

It is also a matter of history that Presidents John Adams and Thomas Jefferson favored the university proposition throughout their terms of office, repeatedly urging its importance upon Congress.

For example, in his sixth annual message, President Jefferson, having already predicted favorable action by Congress and discussed the use of the Treasury surplus for a national endowment, said:

"Education is here placed among the articles of public care; not that it would be proposed to take its ordinary branches out of the hands of private enterprise, which manages so much better all the concerns to which it is equal, but a public institution can alone supply those sciences which, though rarely called for, are necessary to complete the circle, all the parts of which contribute to the improvements of the country, and some to its preservation. * * * The present consideration of a national establishment for education particularly is rendered proper by this circumstance also, that if Congress, approving the proposition, shall yet think it more eligible to found it on a donation of lands, they have it now in their power to endow it with those which will be among the earliest to produce the necessary income."

The utterances of President Madison are so emphatic and important that we quote briefly from a number of them.

From his second message these words:

"By enlightening the opinions, by expanding the patriotism, and by assimilating the principles, the interests, and the manners of those who might resort to this temple of science to be redistributed in due time through every portion of the community, sources of jealousy and prejudice would be diminished, the features of national character would be multiplied and greater extent given to social harmony. But, above all, a well-constituted seminary in the center of the Nation is recommended by the consideration that the additional instruction emanating from it would contribute not less to strengthen the foundations than broaden the structure of our free and happy system of Government."

From his seventh message:

"Such an institution claims the patronage of Congress as a monument of that solicitude for the advancement of knowledge without which the blessings of liberty can not be fully enjoyed or long preserved; as a model of instruction in the formation of other seminaries; as a nursery of enlightened preceptors; as a central resort of youth and genius from every part of the country, diffusing on their return examples of those national feelings, those liberal sentiments, and those congenial manners which contribute to cement our Union and strength to the political fabric of which that is the foundation."

In his final message he further said:

"The importance which I have attached to the establishment of a university within this District on a scale and for objects worthy the attention of the American Nation, induces me to renew my recommendation of it to the favorable consideration of Congress."

The university proposition also received the support of President James Monroe, whose sympathies with the desires and plans of Washington found expression at many times, and who fondly hoped that Columbian College, which did at different times later receive aid from Congress, would somehow grow into the desired institution. On the 28th of March, 1820, he said:

"The establishment of the institution within the Federal District, in the presence of Congress and of all the departments of the Government, will secure to those who may be educated in it many important advantages. * * * If it

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receives hereafter the proper encouragement, it can not fail to be eminently useful to the Nation."

The same, and more, may be said of John Quincy Adams, who often urged it, even before he came to the Presidency, and who in his first message referred to it with a touching elequence in these terms:

"Among the first, perhaps the very first, instruments for the improvement of the condition of men, is knowledge; and to the acquisition of much of the knowledge adapted to the wants, the comforts, and the enjoyments of human life, public institutions, and seminaries of learning are useful. So convinced of this was the first of my predecessors in this office, now first in the memory as he was first in the hearts of his countrymen, that once and again, in his addresses to the Congresses with which he cooperated in the public service, he earnestly recommended the establishment of seminaries of learning, to prepare for all the emergencies of peace and war, a national university and a military academy. With respect to the latter, had he lived to the present day, in turning his eyes to the institution at West Point, he would have enjoyed the gratification of his most earnest wishes; but in surveying the city which has been honored with his name, he would have seen the spot of earth which he had destined and bequeathed to the use and benefit of his country as the site for a university still bare and barren."

Again, it was President Jackson who, in 1832, approved the appropriation of $25,000 to Columbian College on account of the generally acknowledged "utility of a central literary establishment," and of his hope that said institution was to realize the dreams and aspirations of the long line of his illustrious predecessors.

Disheartened, as it would seem, by continued disregard of all these earnest appeals of their predecessors, but four of the more recent Presidents have ventured to urge the subject upon the attention of Congress, although several of them are known to have favored the founding of a central university as the crown and completement of the public educational system of the country. Of such as have done so honorable mention may be made, first, of President Grant, who, in his annual message of 1873, said:

I would suggest to Congress the propriety of promoting the establishment in this District of an institution of learning or university of the highest class by donations of lands. There is no place better suited for such an institution than the National Capital. There is no other place in which every citizen is so directly interested."

So fully convinced was he of the importance of such an institution, half believing that had it been founded in the time of Washington for the higher education of influential representatives of all sections the late unhappy conflict might never have come; so impressed was he with the wisdom of appropriating lands as a broad and sure foundation, and, finally, so confident of early action by Congress, that he thought chiefly of the concurrence of all friends of the proposition upon Washington as the seat of the institution.

It is well known that similar views were cherished by President Hayes, of whose recommendations that of 1877 is especially worthy of note:

"The wisdom of legislation upon the part of Congress in aid of the States for the education of the whole people in those branches of study which are taught in the common schools of the country is no longer a question. The intelligent judgment of the country goes still further, regarding it as also both constitutional and expedient for the General Government to extend to technical and higher education such aid as is deemed essential to the general welfare and to our due prominence among the enlightened and cultivated nations of the world. * * * I shall be glad to give my approval to any appropriate measure which may be enacted by Congress for the purpose of supplementing with national aid the local systems of education in * * * all the States; and having already invited your attention to the needs of the District of Columbia with respect to its public-school system, I here add that I believe it desirable, not so much with reference to the local wants of the District but to the great and lasting benefit of the whole country, that this system should be crowned with a university in all respects in keeping with the National Capital, and thereby realize the cherished hopes of Washington on this subject."

We further note the agitation of the national university question from that time forward, with special activity at intervals, by leading scholars, scientists, and statesmen of every portion of the country; its support by the presidents and professors of nearly, if not every, State university, as well as by those of the denominational schools and universities of every section, and even by the

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heads of the great and new universities founded upon those munificient bequests of distinguished private citizens which have gained for them the admiration and gratitude of all friends of education throughout the world; also the earnest and systematic support of the proposition by duly-authorized committees of various national educational, scientific, and patriotic organizations; and, finally, its cordial approval by that great body of eminent men who constitute the managing and working force of scholars and scientists in the many divisions—educational, industrial, and scientific—of the Federal Government, notable examples from the distinguished class last named being found in the successive superintendents of the Coast and Geodetic Survey, of the Naval Observatory, of the Bureaus of Navigation, Hydrography, Medicine and Surgery, Anthropology, Ethnology, and Education; the National Museum, Museum of Hygiene, Government libraries, etc., together with those scientific and other organizations, having more or less connection with the Government, which are so honorably represented by the Smithsonian Institution.

As is shown in the memorial of John W. Hoyt, recently published by order of the Senate, and of which liberal use has been made in the preparation of this report, a very considerable number of the army of learned men and officials have at various times advocated the university measure in published papers, public addresses, and official reports—so great a number, indeed, that the proper limits of this report will not justify more than the mention of the fact, unless we venture this final quotation from a very able report of Hon. L. Q. C. Lamar, Secretary of the Interior in 1885, wherein he said:

"Eighty years ago President Jefferson, then in the fullest tide of his authority as a party chief, told Congress that to complete the circle of Democratic policy a national university was a necessity and should be created. In this he followed the recommendations of his predecessors, Washington and Adams, the former of whom 10 years before declared that the desirableness of a national university had so constantly increased with every new view he had taken of the subject that he could not omit the opportunity of recalling the attention of Congress to its importance. Mr. Madison in 1810 renewed the recommendation, with the declaration that such an institution would contribute not less to strengthen the foundations than to adorn the structure of our free and happy system of government, and that it would be universal in its beneficial effects.

"This national institution which Washington, Adams, Jefferson, and Madison thought so necessary has never been established, and in these later years the idea of a national university constitutes no part of the plans of statesmen and seems to have been lost sight of by the people.

"In the meantime scientific bureaus have grown up one by one under the Government, with observatories, laboratories, museums, and libraries, until the whole range of physical science is represented by national institutions established by the Government for the purpose of prosecuting researches, embracing astronomy, meteorology, geography of land and sea, geology, chemistry, statistics, mechanical inventions, etc. If the various commissions, bureaus, and divisions of the executive departments at Washington, which have for their object the prosecution of scientific research, could be combined as integral parts of one scientific institution, such institution would be of greater proportions and more comprehensive than any in the world, and should a university be erected thereon, with a superstructure commensurate with the foundation, it would be without a rival in any country.

"The common-school system, designed to furnish every citizen with an education which ought to be a strict necessity for his daily work of life, constitutes the foundation for our democracy. But that is not enough to satisfy its instincts. In the history of nations democracies have been the cradles of pure thought and art. The same cause which operates in them exists in American society, and whether through a national university or in fragmentary institutions in the several States, sooner or later, a higher education, higher than the common school or the academy or the college can furnish, will alone realize and express the higher aspirations of American democracy."

As final citations of the views of other men upon this important subject, attention is called to the fact that bills similar to the one reported by this committee have been twice before unanimously commended to the National Legislature, once by the Committee on Education of the House of Representatives in 1872, and again in 1892 by the Senate's Select Committee to Establish the University of the United States; the first providing for the payment in perpetuity of 5 per cent interest on a registered certificate of twenty millions: the last mentioned for one-half the net proceeds of the sales of the public lands without limit of time.

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The views of the House committee are concisely summed up in the following concluding passage of their unanimous report:

"If, then, it be true, as the committee have briefly endeavored to show, that our country is at present wanting in the facilities essential to the highest culture in many departments of learning; and if it be true that a central university, besides meeting this demand, would quicken, strengthen, and systematize the schools of the country from the lowest to the highest; that it would increase the amount and the love of pure learning, now too little appreciated by our people, and so improve the intellectual status of the Nation; that it would tend to homogeneity of sentiment, and thus strengthen the unity and patriotism of the people; that, by gathering at its seat distinguished savants not only of our own but of other lands, it would eventually make of our National Capital the intellectual center of the world, and so help the United States of America to rank first and highest among the enlightened nations of the earth, then it is most manifestly the duty of Congress to establish and amply endow such a university at the earliest possible day.

"The committee, therefore, affirm their approval of the bill and recommend its passage by the House."

The general conclusion of the Senate committee of the last Congress is set forth in the following concluding passage, no less positive in its terms, to wit:

"Your committee are of the opinion that the cause of American learning demands such an institution as this bill provides for; that the highest dignity and welfare of the Nation demand it; that it should be established at the capital of the country; and that, after a delay of 100 years since it was first proposed and sought to be established by the founders of the Government, it would be unworthy of so great a people to wait longer for a more favorable time in which to meet all these high demands.

"The committee therefore approve the bill and recommend its passage."

Should the question arise whether action was had upon these several bills, it remains to be said that each of them was, unfortunately, reported during the last week of the Congress that should have considered it and that time for action was therefore wholly wanting.

And so of the possible question whether, with the efforts of princely givers and of powerful religious denominational bodies aiming at universities, the wants of our people are not likely to be met without the help of the Nation, the answer is simple; if we should wholly ignore the insufficiency of their endowments, even the richest of them, and that denominational bias which they can not escape if they would—which, indeed, was and is and will remain the mainspring of their great endeavors—the answer must still, and necessarily, be a most emphatic negative.

No institution, whatever its name or aim, that is local, or that rests on either a private or a denominational foundation; no institution with partial aims, however worthy, as viewed from a local or a partisan standpoint; no institution with aims less than national and universal, and, on this account, able to command the confidence, active sympathy, and moral as well as material support of the whole people; no institution not so related to the public-school system of the United States, with its primary, secondary, academic, and university gradations, as to furnish the crown and culmination of the whole series, and so become to them a mighty coordinating and uplifting force; no institution resting on a foundation less broad, ample, and unfailing than that which is furnished by the geographic empire and boundless resources of the American Union; no institution with less of dignity or less loftiness of purpose than with absolute impartiality to meet all the intellectual and ethical aims of a great people, and to secure for that people an acknowledged leadership among the nations in all things that make for the progress and highest welfare of the human race; no institution less than equal to all these exalted ends can satisfy the needs and demands of such a people as dwell under the flag of the American Republic.

Progress in higher education has indeed been made in this country since the revival of efforts for the proposed national university; but the growth of science, the needs of the people, and the demands of the age have more than kept pace with the increase of instrumentalities, so that relatively we are no nearer the goal, the realization of the aims so long cherished by the patriots and scholars of the Nation, than before.

Indeed, as compared with the leading nations of Europe, we are at a yet greater disadvantage; for the development there has been more marked than here. France, Germany, Austria, and Italy appear to have gained of late a new realization of how incalculably great a factor is the higher education in the

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struggle of a people for supremacy. Thus Germany, having wisely followed the guidance of her far-sighted statesmen, and so become during the last quarter of a century the world's leader in the whole field of higher culture, is now lavishing her resources upon her universities, strengthening them on every side, especially the scientific, and providing new accommodations for them at a cost of millions for a single department.

Austria, not to be outdone in the university rôle, has in one or two cases not only exceeded Germany, but has placed her central institution before all others in the world, in so far as material provision and ambitious plans are concerned, erecting buildings for its use at a cost exceeding the present available endowment of any university in America, and planning researches in the interest of science which are intended to place her in the van of the world's army of progress.

So of the Dutch, Scandinavian, and English Governments. all have received a new awakening and are moving with a degree of zeal and liberality hitherto unheard of.

Nor are the Latin nations content to rest on laurels already won. France, having advanced the educational budget beyond all precedent, is now revolutionizing and developing her École Pratique des Hautes Études with a view to highest possible standards; is making the École Libre des Sciences Politique the foremost institution of its kind in the world; is devoting over $3,000,000 to new buildings for the Sorbonne, and dealing hardly less liberally with the College de France and with some of the great professional institutions of Paris. Italy is building palatial structures for her universities at the great centers, fully resolved not to be left in the rear of this grand new movement. Everywhere concentration of means and forces, to the end of leadership and eventual supremacy in the university field, is the watchword.

It is for America to say whether she will be content to lag forever in the rear of nations so greatly her inferior in resources, or whether she will at last take the one remaining step requisite to fairly meet the demands of learning and of those free institutions for which she assumes to be the supreme representative.

It would seem, therefore, that it but remains to mature and adopt such a measure as shall in the best manner meet these high demands.

The bill before the Senate, as reported by your committee, provides: That a university of postgraduate rank, with facilities for scientific and literary research and investigation, shall be established in the District of Columbia; that the government of the institution shall be vested in a board of 15 regents, 8 to be appointed by the President, with the advice and consent of the Senate, and 7 to be ex officio members, consisting of the President of the United States, the Vice President, the Chief Justice, the Speaker of the House of Representatives, the Commissioner of Education, the Secretary of the Smithsonian Institution, and the president of the university, and a council of faculties; that the council of faculties shall consist of the president of the university and the deans of faculties, and shall be charged with the planning and direction of instruction and discipline in the several departments and with such other duties as are prescribed in the statutes or designated by the regents; that the immediate government of each faculty shall be intrusted to its own members; that no chair for instruction sectarian in religion or partisan in politics shall be permitted in any form, and no partisan test shall be required or allowed in the appointment of professors or in the selection of any officer of the university; that existing institutions which are free from controlling obligations of a sectarian or partisan nature and have endowments sufficient to support a faculty may become faculties or departments of the university; that the facilities afforded by the university shall be open to all who are competent to use them, on conditions prescribed by the executive committee, with the advice of the faculties directly concerned; that degrees shall be conferred upon such persons only as have previously received the degree of bachelor of arts or some equivalent degree or who have received certificates of graduation from some State educational institution; that each State and Territory, in the ratio of population, shall be entitled to free scholarships of such number—not less than one for each Representative and Delegate in Congress and two for each Senator—as the board of regents shall determine; that for the advancement of science and learning by means of researches and investigations there shall be established fellowships in the university of such character and number as the interests to be represented and the resources at command shall warrant, which fellowships shall yield a partial or a full support, as the regents shall determine; that in the admission and appointment of persons to places or privileges in the university character and

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competency shall be the sole test of qualifications; that as a means of partially providing building sites for the several departments of the university "University Square," selected and set apart by President George Washington for the use of a national university and heretofore occupied by the National Observatory, shall be set apart for the use and benefit of the University of the United States; that for the practical establishment, support, and maintenance of the university there shall be used one-third of the net proceeds of the sales of the public lands for the period of 10 years from the passage of this act; that the regents shall have power to receive and administer all such gifts, devises, and bequests as are made for the benefit of the university; that after the formal opening of the university for instruction the members thereof, under rules approved by the officers, subject to any regulations prescribed by Congress, shall have access to all institutions, collections, and opportunities for study and research under control of the Government so far as the same can be accorded without detriment to the public service, and that, to the end that the largest possible benefit may come of such access, the heads of all bureaus, institutions, and other organizations of the Government shall be brought into such advisory and cooperative relations with the heads of corresponding departments of the university as the executive committee, with the advice of the heads of faculties and the said officers of the Government, shall agree upon as being advantageous.

Attaching great importance to the many facilities and opportunities for the higher instruction as well as for original research afforded here at the National Capital in the form of legislative bodies, the several courts of every class, the nearly 50 scientific bureaus, museums, laboratories, libraries, art collections, hospitals, and other important organizations, and the numerous scientific, literary, and philosophical societies, as well as collegiate institutions, the whole vast array standing for and representing a body of scholarship and scientific attainments without parallel in this country. Realising also in how important a sense all these are at present but opportunities lost, that the elements of a grand university are in fact already here waiting for an opportunity to marshal themselves in its service, and further realizing how great are the means and forces requisite to secure to the United States their appropriate rank in the educational world, your committee would, under other conditions, have increased rather than diminished the amount of the appropriation for the establishment of the university.

The bill as amended makes as moderate a demand as can be considered. The amount would hardly be felt by the Treasury, and yet it would suffice to launch an institution the deep and ever-increasing interest in which would insure to it accessions from many sources, with a commanding rank among the great universities of the world ere the lapse of many years. And accordingly, firmly believing that the proposed University of the United States is essential to the completeness and highest efficiency of the American system of educational instrumentalities, and that its early establishment is demanded by the honor of the Republic as a great and rapidly growing and highly responsible power among the nations of the earth, the committee unanimously affirm their approval of the bill as amended, and recommend its passage by the Senate.

[Senate Document No. 15, Fifty-fourth Congress, second session.]

A bill has been framed and reported in the Senate of the United States for the establishment of a national university at Washington. Reasons have been urged for and against this measure. Many good men who ought to appreciate the advantages to the country of the high educational work which such an institution could do better than any other that we are likely to have for several generations oppose it because it would interfere with some of their own cherished plans.

The principal objectors of this class are men who are interested in denominational schools, and who maintain that such an institution would be godless and unsafe for the youth of America. They forget that nearly all our boys and girls are educated exclusively in schools that are supported by public money and uncontrolled by any religious denomination. They forget also that the public schools are the only ones that would be acceptable to the American people, and that to them alone we must look for an education above the superstitions of the past and a bigotry which are certainly godless and anti-Christian. The man who would propose to substitute several denomi-

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national schools for the public school of any town would be considered a fit subject for an insane asylum. In many of our most intelligent Christian communities such schools, established to run in opposition to the public schools, would scarcely be tolerated.

We would not derogate the importance of the work done by our denominational colleges in affording our youth the culture and training given by the old-time regular college course. Especially valuable are the thorough training given in the smaller classes to students pursuing the classical course and the close contact between student and professor. But the State and the Nation must furnish the facilities for higher postgraduate work and for original investigation, which will be of value to all our industries and professions. Although the schools controlled by a denomination still have their advocates, provided they are not intensely sectarian in character, yet the higher institutions of learning supported by the State and enriched by private munificence are more and more gaining in popular favor.

These objectors also forget that original investigation and discoveries in the physical sciences have not been received with favor in general by those who control church institutions; that scores of teachers who have made such investigations or advocated the latest developments of science have been harassed and removed from their positions. This statement may not apply to all church schools, but it is nevertheless true that the man who announces new facts or theories must be careful to state them in such a way as not to seem to conflict with popular preconceived ideas. To be efficient and to hold the confidence of all the people, the policy of an institution whose primary object is to widen the boundaries of knowledge must be marked by the broadest toleration.

A second class of men oppose the establishment of a national university, as is proposed, on the ground that a majority of our most useful practical men have not had nor do they need the advantages of such an institution. This may be true. It is not necessary for a farmer to be a specialist in organic and inorganic chemistry to be able to analyze his soils, fertilizers, water, and foods. He need not be a skilled horticulturist, botanist, nor entomologist; he need not have made an exhaustive study of animal industry, comparative anatomy, physiology, hygiene, veterinary, surgery, and medicine. But every intelligent farmer does profit from the study of specialists in all these departments of knowledge. Years of patient experiment and investigation by Lavis and Gilbert in England and the important work done by Liebig and Möhler in Germany and Boussingault in France have resulted in discoveries of inestimable value to the farmer. We may use many of these results, but agriculture in the United States presents many peculiar problems which we alone can solve. Some of the most obvious laws of nature are already the property of mankind, but the greater part of them, on which depend our progress in the arts, sciences, and practical industries of life, are hidden mysteries which can be discovered only by years of long, patient study and experiment under the most favorable circumstances and with all the appliances which the best equipped institution can furnish.

Thirty years ago I spent three years at the universities of Berlin and Heidelberg, because our own country did not furnish equal facilities for a higher education. The discoveries made at the latter university during that decade by three men—Kirchoff, Bunsen, and Helmholz—have been of vast practical importance to the world. I need mention but one which has enabled us with equal ease to detect the presence of an element in a distant star and in a body which we can handle in the laboratory. It is almost essential in the process of producing Bessemer steel, which has revolutionized the iron industry of the world. The recent discoveries of Pasteur, Koch, and Röentgen have been the results of such aid given by their respective Governments as we are now asking for our own people. We have done much for the dissemination of knowledge—we have done little compared with the vast resources of the country for original investigation which is imperatively demanded by every department of industry. To the formula of the student, placed in the hands of practical men, is due the progress of the world during the past 50 years.

The superior advantages of European universities, with their immense laboratories and public collections accumulated under the fostering care of governments, attract each year about 3,000 American students. The cost of this foreign education to our country is not less than $3,000,000 per annum. A small part of this expense would afford facilities for the education of our

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own people that would attract students from every quarter of the globe. Thousands of our brightest young men, who can not afford to spend two or three years in Europe, ought to have equal opportunities for an education at home. Young men with such training are needed to supply our demand for teachers, physicians, lawyers, statesmen, preachers, as well as for industrial work where the highest talents and the most careful training will be of service, if not to the individual, certainly to the people at large. No man is fitted to teach in his own alma mater who has not had special training in some other as high or higher institution of learning.

It is said that the great universities already established and supported by the different States or by funds contributed by individuals are all that is demanded by the country at the present time. They are certainly doing a great work, but every man thoroughly conversant with the work of the great universities of Europe and who understands the wealth of our national resources, the demands of our industries, and the complex problems of our economics will admit the necessity of having one great center of thought, study, investigation, and experiment which shall be as much above these universities as they are above the ordinary college. It may not be necessary to lessen the number of those who go to foreign countries for the purpose of study, but we must not depend upon foreign thought for our social, political, and industrial development. To avoid this we have only to group the vast collections at Washington and incorporate the different departments of investigation already established and supported by the National Government in order to lay the foundation of a university that will equal any in the world, and which shall do for our own people a work unrivaled by any foreign school.

An endowment of $20,000,000 for a national university would not in any other city secure such facilities in a generation as are already in Washington. A comparatively small appropriation would supply the buildings required for some years. The lecture rooms of each department should be in the building already provided for the collections that would be used by that department. The buildings of the great universities on the Continent of Europe are, with scarcely an exception, plain, unpretentious structures located in the central business part of the cities. Such a location would be not only desirable, but almost essential for a national university at Washington.

But it is urged that private enterprise under the auspices of the different religious denominations will accomplish the desired results. The mere statement of this proposition is sufficient to alarm even those friends of higher education who are the strongest supporters of the churches. The Government is the custodian of those collections, and they should not be intrusted to private individuals or corporations, neither could they be placed at the disposal of several rival institutions without great sacrifice. No one such institution can command the confidence of all the people of the United States. The object of a national university would be to increase the intelligence and build up the industries of the entire country. The primary purpose of a denominational institution is to strengthen the hold of the church upon the masses of the people. However desirable this may be, however beneficent the work of the Christian church, this is not a legitimate part of the work of a great university. Its aim must be to seek truth and teach it, however much it may seem to conflict with preconceived ideas. Religion and the church would gain from such investigation as much as any social, political, or industrial science.

But religious toleration is not all that the American people demand. A new institution has, unfortunately, received a blow from which it will not entirely recover for years, because the impression has gone forth that one of its professors was removed for teaching theories that were inconsistent with the business principles and practice of its chief benefactor. The head of another great institution has lately been removed, and the world is asking whether it was done to promote the cause of education or to serve the interests of a conservative, nonprogressive hierarchy.

The history of institutions supported by Government funds gives us little encouragement to hope that a national university would be entirely free from political interference unless the wisest measures are incorporated in the bill for its establishment and future management. Beyond all question there must be secured for its future perfect toleration in all subjects lawful for investigation. Partisan politics which have disgraced some of the State institutions supported by national appropriations must be completely divorced from its management. Competent men who have had large experience in educational work must be chosen to direct and shape its entire policy and development.

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The scholars chosen to teach and investigate nature's laws must be assured that they will be required to stand before no tribunal for judgment and condemnation but the God of heaven, who instituted those laws. We believe that such divorcement of scholarship from politics may be accomplished.

We learn from a careful investigation of the facts that almost without exception every position in the gift of the National Government that has demanded high scientific attainments has been filled by men eminently fitted for their work, irrespective of their social, political, or religious creed, and that they have been generously supported. If the wisdom of Congress can devise a bill that will secure these results and place the national collections in Washington at its disposal, we may expect to have a university that in a few years will rival any in the Old World.

[Senate Document No. 29, Fifty-fourth Congress, second session.]

WASHINGTON, D. C., *December 17, 1896.*

DEAR SIR: As requested by you, I send herewith the substance of my remarks before your committee this morning on the need of a national university. The manuscript as here inclosed is for the most part identical with an article prepared by me for the January number of The Forum, to which magazine full credit should be given should these remarks be printed.

Very truly, yours,

DAVID S. JORDAN.

Senator KYLE,
Chairman Committee to Establish the University of the United States.

THE UNIVERSITY OF THE UNITED STATES.

The most important event in the history of modern Germany has been the foundation of the University of Berlin. The unification of the German Empire was a matter of tremendous significance. The success of the German armies has widened the sphere of Teutonic influence, while the recent adoption of a uniform code of laws throughout Germany has been an event of far-reaching importance. But much more important has been the growth of a great center of human wisdom in Germany's chief capital. The influence of the University of Berlin shows itself not only in Germany's preeminence in scientific investigation, not only in the wide diffusion of liberal culture, but it is felt in every branch of industrial effort. There is no trade or handiwork in Germany that has not been made more effective by the practical application of investigations made in the great university. There is no line of effort in which men have not grown wiser through the influence of the noble body of men brought together to form this institution.

Nor is the influence of the university confined solely or even mainly by the boundaries of Germany. The great revival of learning in America which has shown itself in the growth of universities, in the rise of the spirit of investigation, and in the realization of the value of truth, can be traced in large degree to Germanic influences. These influences have not come to us through German immigration nor from the presence of German scholars among us, but through the experience of American scholars in Germany. If it be true, as Mr. James Bryce avers, "that of all institutions in America" the universities "have the best promise for the future," we have Germany to thank for this. It is, however, no abstract Germany that we may thank, but a concrete fact. It is the existence in Germany of universities, strong, effective, and free, and first among these we must place the youngest and greatest of their number, the University of Berlin.

In the history of our Republic this century has had its epoch-making events. The war of Union, the abolition of slavery, one and the same in essence, mark the movement of the Republic from medievalism to civilization. But the great deed of the century still remains undone. Ever since the time of Washington our lawgivers have had in contemplation the building of a university at the Nation's Capital. They have planned a university that shall be national and American, as the University of Berlin is national and German; a university that shall be the culmination of our public-school system, and that by its vivifying influence shall quicken the pulse of every part of that system. For more than a century wise men have kept this project in mind. For more than a century wise men have seen the pressing need of its accomplishment. For

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more than a century, however, the exigencies of politics or the indifference of political managers have caused postponement of its final consideration.

Meanwhile, about the National Capital, by the very necessities of the case, the basal material of a great university has been already gathered. The National Museum and the Army Medical Museum far exceed all other similar collections in America in the amount and value of the material gathered for investigation. The Library of Congress is our greatest public library, and, in the nature of things, it will always remain so. The Geological Survey, the Coast and Geodetic Survey, and the biological surveys of the Department of Agriculture are constantly engaged in investigations of the highest order, conducted by men of university training, and possible to no other men. The United States Fish Commission is the source of a vast part of our knowledge of the sea and of sea life. Besides these, are many other bureaus and divisions in which scientific inquiry constitutes the daily work. The work of these departments should be made useful not only in its conclusions but in its methods. A university consists of investigators teaching. All that the National Capital needs to make a great university of it is that a body of real scholars should be maintained to train other men in the work now so worthily carried on. To do this would be to bring to America all that American scholars now seek in the University of Berlin. Students will come wherever opportunities for investigation are given. No standards of work can be made too high, for the severest standards attract rather than repel men who are worth educating.

It should not be necessary to bring arguments to show the need of a national university in America. A university, we may remember, is not a school for boys and girls, where the elements of a liberal education are taught to those who have yet to enter upon the serious side of life. A university is not a school maintained for the glory or the extension of any denominational body. In its very definition, a university must be above and beyond all sectarianism. Truth is as broad as the universe, and no one can search for it between any artificial boundaries. As well ask for Presbyterian sunshine or a Baptist June as to speak of a denominational university.

It is said that we have in America already some 400 colleges and universities, and that therefore we do not need any more. Quite true. We need no more like these. The splendid achievement and noble promise of our universities, to which Mr. Bryce calls attention, is not due to their number. Many of them do not show this promise. If such were to close their doors to-morrow education would be the gainer for it. Many of these institutions, as we know, are not universities in fact nor in spirit. Most of the work done in the best of them is that of the German gymnasium or preparatory school. The worst of them would, in Germany, be closed by the police, but in a certain number of the strongest and freest of these is found in the highest degree the genuine university spirit. For more of these good ones there is a crying demand. Their very promise is a reason why we should do everything possible to make them better.

A school can rise to be a university only when its teachers are university men—when they are men trained to face directly and effectively the problems of nature and life. To give such training is the work of the university. In an educational system each grade looks to the one next higher for help and inspiration. The place at the head of our system is now held by a university of a foreign land. It is not the needs of the District of Columbia which are to be met by the University of the United States. The local needs are well supplied already. It is the need of the Nation; and not of the Nation alone, but of the world. A great university in America would be a school for the study of civic freedom. A great university at the Capital of the Republic would attract the free minded of all the earth. It would draw men of all lands to the study of democracy. It would tend to make the workings of democracy worthy of respectful study. The New World has its lessons to men as well as the Old, and its material for teaching these lessons should be made equally adequate. Mold and ruin are not necessary to a university, nor are traditions and precedents essential to its effectiveness. The greatest of Europe's universities is one of her very youngest. Much of the greatness of the University of Berlin is due to her escape from the dead hands of the past. It is in this release that the great promise of the American university lies. Oxford and Cambridge are still choked by the dust of their own traditions. Because this is so men have doubted whether England has to-day any universities at all.

The national university should not be an institution of general education, with its rules and regulations, college classes, good-fellowship, and football

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team. It should be the place for the training of investigators and of men of action. It should admit no student who is under age and who has not a definite purpose to accomplish. It has no time or strength to spend in laying the foundations for education. Its function lies not in the conduct of examinations or the granting of academic degrees. It is not essential that it should give professional training of any kind, though that would be desirable. It should have the same relation to Harvard and Columbia and Johns Hopkins that Berlin University now holds. It should fill in with noble adequacy the place which the graduate departments of our real universities partially occupy. In doing so it would furnish a stimulus which would strengthen all like work throughout the land.

Graduate work has yet to be taken seriously by American universities. Their teachers have carried on original research, if at all, in hours stolen from their daily tasks of plodding and prodding. The graduate student has been allowed to shift for himself, and he has been encouraged to select a university not for the training it offers, but because of some bonus in the form of scholarships. The free-lunch inducement to investigation will never build up a university. Fellowships can never take the place of men or books or apparatus in developing the university spirit. Great libraries and adequate facilities for work are costly, and no American institution has yet gathered together such essentials for university work as already exist at Washington.

If a national university is a national need, it is the duty of the people to meet and satisfy it. No other power can do it. As well ask wealthy manufacturers or wealthy churches to endow and support our supreme court of law as to endow and support our supreme university. They can not do it; they will not do it; and as free men we would not have them do it if they would. As to this, Mr. John W. Hoyt, a man who has for years bravely led in the effort to establish a national university, has these strong words:

"WHAT SHOULD THE NATION UNDERTAKE TO ACCOMPLISH?

"What the citizen has not done and can not do is our answer. The citizen may create a very worthy and quite important private institution, some of which may be named to-day, but no citizen, however great his fortune, and no single commonwealth, much less any sectarian organization or any combination of these, can create an institution that shall be so wholly free from bias of any and every sort; that shall complete our public educational system; that shall exert so nationalizing and harmonizing an influence upon all portions of our great country; that shall be always ready to meet the demands of the Government for service in whatsoever field; and that shall at the same time secure to the United States an acknowledged ascendancy in the ever-widening field of intellectual activity."

A university bears the stamp of its origin. Whatever its origin, the university ennobles it. But a national university must spring from the people. It must be paid for by them and must have its final justification in the upbuilding of the nation. Whatever institutions the people need the people must create and control. That this can be wisely done is no matter of theory. With all their mistakes and crudities, the State universities of America constitute the most hopeful feature in our whole educational system. Doubtless the weakness and folly of the people have affected them injuriously from time to time. This is not the point. We must think of the effect they have had in curing the people of weakness and folly. "The history of Iowa," says Dr. Angell, "is the history of her State university." The same thing is grandly and emphatically true in Dr. Angell's own State of Michigan. In its degree the history of every State is molded by its highest institution of learning.

As I have had occasion to say once before—

"Many trials are made in popular government; many blunders are committed before any given piece of work falls into the hands of competent men. But mistakes are a source of education. Sooner or later the right man will be found and the right management of a public institution will justify itself. What is well done can never be wholly undone. In the long run few institutions are less subject to partisan influence than a State university. When the foul grip of the spoilsman is once unloosed it can never be restored. In the evil days which befell the politics of Virginia, when the fair name of the State was traded upon by spoilsmen of every party, of every degree, the one thing in the State never touched by them was the honor of the University of Virginia. And amid all the scandal and disorder which followed our Civil War,

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what finger of evil has been laid on the Smithsonian Institution or the Military Academy at West Point? On that which is intended for no venal end the people will tolerate no venal domination. In due time the management of every public institution will be abreast of the highest popular opinion. Sooner or later the wise man leads, for his ability to lead is at once the test and proof of his wisdom."

Some of the half-hearted friends of the national university have been fearful lest partisan influence should control it. They fear lest it become a prey to the evils which have disgraced our civil service; that the shadow of the "boss" will darken the doors of the university with the paralyzing influence which it has exerted on the custom office. I believe this to be a groundless fear. All plans for a national university provide for a nonpartisan board of control. Its members ex officio are to be chosen from the ablest jurissts and wisest men of science the country can claim. Such a board now controls the National Museum and the Smithsonian Institution, and no accusation of partisanship or favoritism has ever been brought against it.

A university could not be otherwise than free. Its faculty could respond only to the noblest influences. No man could receive an appointment of national prominence in the face of glaring unfitness, and each man chosen to a position in a national faculty would feel the honor of his profession at stake in repelling all degrading influences. Even if occasionally an unwise appointment should be made, the action would correct itself. To a university men and women go for individual help and training. A pretender in a university could not give such help. His presence is soon detected by his fellows and by his students. The latter he could not harm, for he could not retain them. By the side of his fellows he could not maintain himself. No body of men is so insusceptible to coercion or contamination as a university faculty. A scholar is a free man. He has always been so. He will always remain so. The danger that a body of men such as constitute the university faculty of Harvard, or Columbia, or Chicago, or Yale, or Cornell would be contaminated by Washington politics is sheer nonsense. Such an idea has no basis in experience. It is urged only for lack of better arguments. Such opposition to the national university as has yet appeared seems to rest on distrust of democracy itself or on the concealed hatred of secular education. To one or the other of these influences can be traced nearly every assault yet made on any part of the system of popular education.

The fear that the university should be contaminated by political associations is therefore groundless. But what about the hope from such associations? An educated politician may become a statesman, and we may look for tremendous results for good from the presence of trained economists and historians and jurists and scientific investigators at the National Capital. It would in itself be an influence for good legislation and good administration greater than any that we know. "The worth of educated men in purifying and steadying popular sentiment," says President Cleveland at Princeton, "would be more useful if it were less spasmodic and occasional. Our people readily listen to those who exhibit a real fellowship and friendly and habitual interest in all that concerns the common welfare. Such a condition of intimacy would not only improve the general political atmosphere but would vastly increase the influence of our universities in their efforts to prevent popular delusions or correct them before they reach an acute or dangerous stage."

The scholars and investigators now maintained at Washington exert an influence far beyond that of their official position. If the Harvard faculty and its graduate students met on the Capitol Hill; if their influence were felt in the departmental work and their presence in social life, Washington would become a changed city. To the force of high training and academic self devotion is to be traced the immense influence exerted in Washington by Joseph Henry, Spencer F. Baird, and Brown Goode. Of such men as these are universities made. When such men are systematically selected from our body of university professors and brought to Washington and allowed to surround themselves with like men of the next generation, we shall indeed have a national capital. By this means we shall create the best guarantee of the perpetuity of our Republic; that it shall not, like the republics of old, "go down in unreason, anarchy, and blood." In the long run, the voters of a nation must be led by its wisest men. Their wisdom must become the wisdom of the many, else the nation will perish. A university is simply a contrivance for making wisdom effective by surrounding wisest men with the

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conditions most favorable for rendering wisdom contagious. There is no instrument of political, social, or administrative reform to be compared with the influence of a national university. (From The Forum, January, 1897.)

DAVID STARR JORDAN,
Leland Stanford Junior University, California.

While the Senate was acting favorably the House was not considering it so favorably. However, in 1890 a bill was introduced in the House by O'Neill, of Pennsylvania, to establish a memorial national university, to be one of the achievements brought about on the four hundredth anniversary of the discovery of America in 1893. In 1896 the Senate District Committee reported a bill recommending the granting of a charter for the national university.

[House Report No. 261, Fifty-fourth Congress, first session.]

The Committee on the District of Columbia have considered the bill (H. R. 4785) to incorporate the national university in the District of Columbia, and report same with recommendation that it do pass, with an amendment inserting the word "of" after the word "name," in line 8 of section 1 of the bill. This is purely a clerical error, and the amendment corrects the same.

The object of the bill is to grant a special charter of Congress to this university. It now has, and has had for many years, a charter obtained under the general law, under which it maintains a university, with full corps of teachers, etc.

This university asks for this general charter because it is proposed to provide by law that colleges not incorporated by special act of Congress shall not be allowed to conduct their business in the District of Columbia unless such colleges shall be registered by the Commissioners of the District, and granted by them a written permit to commence or continue business in said District.

They ask for no new power or powers not granted by their present charter. The only object is to avoid the necessity for this university to apply to the District Commissioners to be registered, etc., before doing business.

Mr. PLATT. Have you studied the bills?

Mr. FESS. Yes, sir.

Mr. PLATT. Did they carry big appropriations?

Mr. FESS. No, sir; the last bill did not carry a dollar of appropriation. It did not ask the Government to do anything in the way of an outlay of money.

Mr. PLATT. What did it do?

Mr. FESS. It simply asked for the assembling of these bureaus here, which is really a disorganized university already, and to open them up for research work. One of the bills, however, provided that there should be bonds issued, the interest of which should be utilized for the immedite expenses of the university. Of course, you understand that it would ultimately entail an appropriation.

Mr. PLATT. I suppose you have worked out a plan.

Mr. FESS. Yes, sir.

Mr. PLATT. It seems to me that a national university ought to start on the principle of the University of London. It ought to be an examining board only and grant degrees

Mr. FESS. Well, I am coming to that. Gov. Hoyt, who, by the way, was once an Antioch man, continued to keep the matter before the educators of the country. In 1892 he published a memorial of 124 pages, and it was published as a Senate document in the Fifty-second Congress. In the meantime there was a committee, called an advisory committee, of educators and business men under the leadership of Melville Fuller, Chief Justice of the United States Supreme Court.

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This committee was called the committee of four hundred. This was in 1902. He had good grounds for accepting membership on the committee, because the national university proposition had been indorsed by Chief Justices John Jay, John Marshall, John Rutledge, Associate Justices Joseph Story, Chase, and that class of jurists. And so when this senatorial movement began Chief Justice Fuller interested himself in it and headed the executive council, composed of such men as Edmunds, White, Strauss, Hunton, Herbert, Miles, Langley, Newcomb, etc., This council represents the highest possible rank of public welfare and scholarly attainment. Then they added to that advisory council the general committee of four hundred, representing all professions and every part of the Nation. I have the report of that committee. I have seen copies of nearly 500 letters, written by the best educators and business men of this country, indorsing this proposition.

I now have a reprint of those letters in the form of a report made to the Senate in 1902 in the Fifty-seventh Congress. In spite of all this wonderful movement the national university idea slept in the Senate. In 1908 it was again revived by Senator Frye, when he reported the findings of a special committee, which report I will make a part of these hearings.

[Senate Document No. 143, Sixtieth Congress, first session.]

WASHINGTON, D. C., *December 19, 1907.*

To the honorable the Senate of the United States:

The members in general of your honorable body will not need to be more than reminded of the several important steps taken by it during the past 17 years toward the establishment of a graduate national university in the District of Columbia—the university ofttimes proposed, provisionally located, and partially endowed by the Father of his Country, also favored and recommended by 10 of his successors in the Presidential chair, and earnestly advocated by numerous other statesmen of higest rank, as well as by a multitude of the country's distinguished scholars, men of science, and practical educators most competent to judge of the country's educational needs. They will readily recall the introduction, by Senator George F. Edmunds, in 1890, of a bill to establish the University of the United States, and its reference to a special committee, afterwards made one of the standing committees of the Senate; the printing of 5,000 copies of a "Memorial in regard to a National University," in 1892, and the several affirmative reports of the Senate's committee, submitted in 1893, 1894, 1896, and 1902, by Chairmen Proctor, Hunton, Kyle, and Deboe, respectively, and embracing, besides the arguments of the committee itself, and hearings before it by many of the most competent authorities in the country, no less than 700 letters of approval from other distinguished statesmen, jurists, officers of the Army and Navy, and 250 college and university presidents—all of them warmly indorsing the measure.

But the recent installation of a number of Senators and the lapse of five years without action by either the Senate or its committee, together with the prolonged absorption of Senators in matters of pressing importance, will justify a fresh calling of the Senate's attention to the subject, with a concise restatement of the case, and the appeal now respectfully submitted, in the name of the National University Committee of Four Hundred, by the undersigned members of its executive council, with the request that it may be printed and have any reference deemed appropriate.

In a study of American education four things are especially noteworthy, namely:

1. While, at the beginning, and for a considerable period afterwards, the whole field of education was mainly in possession of the ecclesiastical organizations of the country, there sprang up at length a conviction, which has since steadily deepened, that the State and National Governments, dependent as they are for their security on the highest intelligence of the people, have educational obligations most solemn and important. Indeed, so deep and moving has been

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this conviction that to-day not only is there no commonwealth of the American Union without its public-school system of such scope and efficiency as to qualify students for the collegiate studies, but in the States generally, though not in every one, there are yet higher institutions, known as universities, established by authority of the State, and with endowments from the General Government in all cases where the public lands therein were still owned by the United States at the date of their founding.

2. Notwithstanding all this intelligent interest in educational agencies—elementary, secondary, and superior—no institution in the United States or in the Western Hemisphere has yet so entirely passed the collegiate rank as to constitute a university in the highest sense; that is, an institution exclusively devoted to graduate work. The foremost of them can boast of little more than beginnings of it in some of their departments.

3. Even if there were an exclusively graduate university elsewhere in the country, or several of them, there are certain offices, many and important, as well as national in both name and character, that would especially attach to a university at Washington, established by the Government and with national ends in view—such, indeed, as could be fulfilled by none other.

4. The chief advocacy of a true university for the country at large has been in connection with propositions to establish at Washington a graduate national university of the highest possible rank for all the States; we might even say for all the American republics, their representatives in Congress assembled (at Philadelphia, in 1891) having already given the proposition their unanimous approval.

That an actual beginning of such an institution was not made long ago is one of the strangest facts in our national history. For, as every one familiar with what has been done and attempted in American education well knows, it came very near being provided for in the Constitution itself, George Washington, Charles Pinckney, Benjamin Franklin, James Madison, and others of the most illustrious framers urging its inclusion therein as a means of making it sure, and yielding only when exclusive jurisdiction over the District of Columbia had been conceded to Congress, which body it was believed would be wise enough to take such action in the matter as would early realize the desires and expectations of the founders of the Republic.

Hence the earnest efforts to secure action by Congress so often made by the farsighted Washington, who not only in his messages repeatedly urged it upon the Congress, but also by means of many letters to John Adams, Edmond Randolph, James Madison, Thomas Jefferson, Gov. Brooke, Alexander Hamilton, the Commissioners of the District of Columbia, and others, as well as in his farewell address, kept the subject before the statesmen of his time, and finally went so far as to select a site for the institution and to remember it in his last will and testament with a bequest of $25,000 in stocks of the Potomac company, which at that time were in high favor.

Hence the timely efforts of Gustavus Scott, William Thornton, and Alexander White, commissioners under the act to establish the temporary and permanent seat of the Government, who ably supported President Washington's recommendations by a memorial to Congress in 1796.

Hence the support of the proposition by 10 of Washington's successors in the presidential office, 6 of them in unbroken line and 4 within our own time, namely, John Adams, Thomas Jefferson, James Madison, James Monroe, John Quincy Adams, Andrew Jackson, Ulysses S. Grant, Rutherford B. Hayes, James A. Garfield, and Benjamin Harrison, all of whom placed a very high estimate upon the service that such a university would render to the country in many ways, especially by bringing multitudes of the ambitious young men of all the States into friendly association at a common center and for a common object—President Madison so high an estimate that, like Washington, he strongly urged it upon Congress three times; while Presidents Grant, Hayes, Garfield, and Harrison even thought, as other statesmen have, that if the high purpose of Washington had been duly and early fulfilled there would have been no Civil War.

Hence the interest felt by such eminent justices of the Supreme Court of the United States as John Hay, John Rutledge, John Marshall, Joseph Story, John McLean, David Davis, and Salmon P. Chase—felt, it may be said, by the chief justices generally, from the very beginning to the coming of our patriotic present head of the Supreme Court, who for so many years has stood fast for the measure and is pleased to still hold his place at the head of the executive council of the National University Committee of Four Hundred.

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Hence the deep interest in the university proposition shown by the most eminent of Cabinet officers along the whole line of presidential administrations—such heads of departments as Edmund Randolph, Timothy Pickering, Albert Gallatin, Daniel Webster, Henry Clay, William M. Evarts, William H. Seward, George S. Boutwell, John Sherman, Alexander W. Randall, Carl Schurz, William F. Vilas, William E. Chandler, Timothy O. Howe, L. Q. C. Lamar, Augustus H. Garland, Redfield Proctor, Oscar S. Straus, and others.

Hence the concurrence of such distinguished heads of the United States Army as Gen. Ulysses S. Grant, Gen. William Tecumseh Sherman, Lieut. Gen. Philip H. Sheridan, and yet others.

Hence the support of the proposition by such other of our most distinguished public men as Senator George Logan, of Pennsylvania, who, while United States Senator, introduced the first national university bill, and in due time reported it without amendment; as Samuel Blodgett, author of the first American work on political economy, who, while a Member of the House of Representatives, reported to that body, in 1806, no less than 18,000 subscriptions toward the university, with $30,000 paid in as a beginning of endowments, to become available when Congress should grant the charter; as Samuel Mitchell, of New York, who, as chairman of the House Committee on the President's Message, reported in favor of the university, in 1810; as the scholarly Richard Henry Wilde, of Georgia, who, in reporting affirmatively on President Madison's third recommendation, at the same time offered a bill to establish the university; as the able Charles W. Atherton, of New Hampshire, who offered and saw adopted the House resolution declaring the constitutionality of a national university, and as Mark L. Hill, of Massachusetts, who ably supported the recommendation of President Monroe.

Hence the support given to the measure, in the form of resolutions by the entire Congress, in 1820, 1823, 1825, and 1832.

Hence the support accorded by such eminent legislators of a later day as Senators Sumner, Patterson, Ingalls, Garland, Carpenter, Davis, Hoar, and the great body of Senators of the more recent past, whenever the question of the proposed university has come before them.

Hence the unanimous report of the House Committee on Education, in 1873.

Hence the support accorded by many of the most distinguished of our diplomats, beginning with Joel Barlow, minister to France, who drafted the first national university bill, and concluding with Gen. Horace Porter, late ambassador to France; John A. Kasson, once minister to Austria-Hungary and then to Germany; Oscar S. Straus, late minister to Turkey, and David J. Hill, minister to Belgium.

Hence the advocacy of the university measure throughout the whole period of our history as a Nation by the foremost of our men of science and learning—such men as Benjamin Franklin, Benjamin Rush, Josiah Meigs, Edward Cutbush, Thomas Sewall, Thomas Law, Alexander Williams, Horace Holley, Charles Caldwell, Alexander Dallas Bache, Benjamin Apthorp Gould, Louis Agassiz, Joseph Henry, James Hall, Benjamin Pierce, O. M. Mitchell, Arnold W. Guyot, Edward Everett, Amos Dean, James Dwight Dana, Theodore D. Woolsey, Spencer F. Baird, Hooper C. Van Voorst, Henry H. von Holst, Samuel P. Langley, John F. Norton, Daniel C. Gilman, Alexander Graham Bell, and others too numerous to mention in this connection.

Hence the concurrence of nearly all the most distinguished of American ecclesiastics who were ever approached on the subject, among them Bishops Alonzo Potter, Henry C. Potter, Ethelbert Talbot, Henry Y. Satterlee, William Paret, Thomas March Clark, Thomas Underwood Dudley, and Thomas F. Starkey, of the Protestant Episcopal Church; Bishops John P. Newman, Charles C. McCabe, David H. Moore, William F. McDowell, and Earl Cranston, of the Methodist Episcopal Church; James McCosh, Francis Lindley Patton, Thomas De Witt Talmage, and Robert S. Booth, of the Presbyterian Church; Henry Ward Beecher, Congregationalist; James Dana Boardman, of the Baptist Church, and Edward Everett Hale, Unitarian, and present chaplain of the United States Senate—even such as have been deeply concerned in the establishment and maintenance of institutions of learning in the interest of their respective denominations; seeing, as they have, that a graduate national university at Washington would fulfill important offices that could be fulfilled by none other.

Hence the support not only of the State university presidents, as would naturally be expected, but also of the eminent heads of the more important independent universities, both old and new; for example, Presidents Thomas

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Hill, of Harvard; Theodore D. Woolsey, of Yale; Francis Wayland and E. Benjamin Andrews, of Brown; James McCosh and Francis L. Patton, of Princeton; F. A. P. Barnard and Seth Low, of Columbia; William Pepper, of the University of Pennsylvania; Horace Holley, of Transylvania; P. B. Barringer, of the University of Virginia; James C. Welling, of the Columbian; J. G. Schurman, of Cornell; Daniel C. Gilman, of Johns Hopkins; David Starr Jordan, of Leland Stanford; William R. Harper, of the University of Chicago; and Edward B. Craighead, of Tulane—in a word, the presidents generally, even to the number of 250.

Hence the highly important advocacy of the national university measure by the State superintendents of public instruction and the United States Commissioners of Education, every one, and by the National Education Association—the most important educational organization in the world, numbering its members by the thousand; which body, during the past 40 years, has repeatedly, with unanimity and emphasis, declared its recognition of this high demand by resolutions and by the formation, many years ago, of a committee of promotion.

Hence, coming now to what we think of as present time, the unanimous action of the United States Senate in forming a select committee of that body, in 1890, to receive and report upon a bill for a national university, offered by Senator George F. Edmunds, of Vermont—a committee significantly entitled "The committee to establish the university of the United States," afterwards made a standing committee, submitting decided reports in '93, '94, '96, and 1902.

Hence the unanimous action of the Pan-Republic Congress, in 1891, in adopting a resolution in favor of the establishment at Washington of a graduate university of highest rank in the common interest of all the American Republics.

Hence, to conclude this recital, the remarkable facts that nearly every one of the Presidents of the United States and the greatest of other Americans in every walk of life and in every period of our national history who have touched the subject in any way have, with almost no exception, declared for the university, and that no American of acknowledged greatness, from the days of Washington until this present, has raised his voice against the proposition—not one. The truth is, no valid objection to such a university as Washington proposed has ever been made or is possible.

Accordingly, we are constrained to ask, What has been the matter?

WHY THIS DELAY OF AN HUNDRED AND NINETEEN YEARS.

There has been nothing like it in American history or in any other.

The delay has not been due, as we have seen, to serious convictions that nothing more in the way of university education is needed, as a little circle of ambitious head of institutions have insisted, although the wrong thus done to higher education has been very great.

The delay has not been because of any serious doubt of the congressional right to establish such a university. There never was any room for a real question of this sort, and it has finally ceased to be urged.

The delay has not been because of too large demands by friends of the measure, for we are asking of the Government nothing in the way of material aid other than that the provision by Washington himself be made good—nothing; although fully satisfied that if the Nation's resources are to be further used for objects not strictly governmental none are more deserving than the establishment of the institution of learning most needed and most universally demanded. Our faith is great in the wisdom of patriotic citizens of large wealth—in the matchless givers of the present and in their worthy successors; and when they fully understand the need we believe that they will see both the fitness and the moral gain of devoting to this purpose gifts even greater than any hitherto accorded and will gladly follow the example of Washington and share with him the honor of the final realization of his exalted aims.

The delay has not been due to a serious conviction anywhere, much less to a prevailing belief, that the proposed university would weaken or in any way injure existing institutions, and such an objection would be considered too absurd to require mention had nobody been deceived by it.

In the first place, there is no conceivable way short of violations of law, punishable by the courts, in which one institution can, in any proper sense, "injure" another. One may, by presenting superior attractions, draw to itself

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students who might otherwise attend elsewhere, and thus acquire a relative importance. The attraction may be found in superior location, with better surroundings and conditions, better buildings and equipments, better instruction, or better established and wider reputation; but each of these things is desirable, and to prevent their being offered because some one or more institutions in the country can not supply them would surely be to wrong the great public. Indeed, a general practice upon such a principle would forever stop the progress of civilization. As a matter of fact, no one of the very few institutions which have opposed the establishment of a university of the United States was ever known to resist the incorporation of any of the great number of others, which have sprung up since the movement for a national university began, although in kind and purpose like themselves, and hence destined to become actual competitors.

It is plain enough, without discussion, that, in case of an institution that is to undertake a work in large part different, indeed in some important respects beyond the possibility of execution by any other, and hence would leave no room for competition, it is useless to even talk of "injury," in however slight a degree. And yet it is by suggestions of this sort that the few enemies of the national university measure have sought to prevent, and for the time have hindered, the incorporation of the proposed university of the United States, and prevented its endowment with insured millions by private citizens.

And right here is found the reason for our persistent contentions, since a very little inquiry will show beyond all question that such a university would not be a damaging competitor of any one of the five opposing institutions, even those at Washington, though having as good a right to rise as Johns Hopkins, the University of Chicago, or any other—indeed, as we have seen, a better reason for rising than they; and not only the reasons just referred to, but the very important one that the no less than $50,000,000 worth of facilities already here, in the forms of museums, libraries, observatories, and other establishments, are all of them the property, not of any particular city, or religious denomination, but of the whole Nation, having been provided at the common cost, and for the Nation's use; in view, also, of the important special national functions which it is to exercise.

The delay has not been due to any well-grounded fear that the proposed university would "get into politics," for provision has always been made against any sectarian or political discriminations whatsoever in the institution and for the free exposition and discussion of all sides of every subject related to governmental policies. And this, too, is to be noted, that, in proportion as an institution of learning attains real dignity and importance, the politician, as distinguished from the statesman, is instinctively constrained to keep hands off. In addition to these considerations may be mentioned the indisputable fact that in the governmental institutions of learning already established, such as the State universities, the United States Military and Naval Academies, and the Smithsonian Institution, practically no difficulty has ever been found on this score. The principle of political noninterference in American governmental institutions of learning has been amply vindicated by experience, and may safely be relied upon for vindication in the future.

The delay has not been on account of recognized faults in the university measure. The bill may not be faultless, but it is the fruit of much correspondence and many conferences with leading Americans, as also of three protracted sessions of the entire executive council of the National University Committee, the Chief Justice of the United States presiding, and has long held its place in the Senate and before the country, without a solitary suggestion of material change from any quarter, although suggestions have been ofttimes invited. Moreover, it has been four times approved (three times unanimously) by the Senate's University Committee. It could not have been framed in a more liberal spirit, and there is to-day the utmost readiness in the National University Committee to warmly welcome and adopt any other plan or form of charter that can be made to appear better calculated to accomplish the desired ends.

What we want, and feel that we may reasonably expect without much further delay, is an act of Congress for the establishment at Washington of an exclusively graduate university of the highest possible type, one that shall be not national in name merely, but truly national in name, spirit, character, and relationships; a university that shall ever be not only in harmony with the best that is in the purposes of the Republic, but highly serviceable in the great work of insuring to it the most enduring prosperity and the most glorious

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possible destiny. We even venture to hope for a university that shall also be competent to serve the lesser nations and in time become an acknowledged advance guard in the whole world's march of civilization.

As carefully planned, it will be unlike any other, and yet have distinctly in view the best interests of all others of every grade, and systematically work with all for the universal good. Let us demonstrate this by pointing out some of its distinctive features:

DISTINCTIVE FEATURES OF THE PROPOSED UNIVERSITY.

1. The University of the United States, when duly established, will fittingly complete the American system of public education—an office of very great importance, since, without such completion, they who have passed through its several grades from the primary school upward and have won the college degrees must suffer the incalculable loss of that still-needed constraining influence which leads to further attainments, and which can only be furnished in full measure by a concluding public institution whose high field is the whole vast realm of what lies beyond in every department of learning, and of what is yet possible to the genius of man through systematic inquiry. In a word, the proposed national university, by furnishing the requisite climax to the existing series of our public educational agencies, will increase the interest of the youth of the country in the highest learning, lead greater numbers into all our colleges and universities, and in time relieve our boastful Republic of the dishonor of holding a place but second in things which are vital, as compared with some of the other powers.

2. While maintaining all possible cooperative relations with other institutions, e. g., by exchange of student privileges and of favors among professors, investigators, curators, and other officials—in a word, such relations of whatever sort as may be found both feasible and advantageous—it will in general terms supplement others by supplying graduate instruction only in every department of study, notably in matters which concern the national welfare; furthermore, will tend to increase the patronage of other institutions by making them necessary gateways to the opportunities and honors it is to offer.

3. While access to the instruction will be accorded to all persons competent to receive it, full membership and its degrees, strictly limited to the doctorate, will be accorded to such only as shall have already received a college or university title from some institution recognized for this purpose by the university authorities—a condition at present imposed by no institution in America, and yet one that will stimulate all others to do their best work.

4. By this exercise of the right to determine what institutions are deserving of recognition, it will insure, as no other institution can, the needed adopton of high and uniform standards in all the collegiate institutions of the country, establish a common measure for degrees, and afford the most healthful stimulation to every class of educational agencies.

5. By the dignity of its high rank and the facilities offered by its great schools of letters, science, philosophy, the practical arts, the fine arts, medicine, law, diplomacy, statesmanship, and yet others, it will become, as no other institution can, a means of educating at home the thousands of our graduates who at some risk now seek in other lands the facilities we fail to furnish.

6. For the same reason it will become to all the other institutions a very important source of increasing numbers and superior teachers.

7. Because of its national character it will draw to a common center, as none other can, great numbers of the graduate students of all sections, promote unity of feeling among them, and thus become in a high degree a nationalizing influence upon the country at large.

8. Because national and of highest rank, it will bring to this world center many thousands of foreign graduates for a completion of their studies under the influence of American ideas and institutions—students whose return, after years of contact with free institutions (should they not remain to our own advantage), would promote the cause of liberal government everywhere.

9. For like reasons and because of the high place this country holds among the nations, the University of the United States would very strongly attract men of genius from every quarter of the globe to its professorships, fellowships, and laboratories, thus increasing the intellectual forces of both university and country.

10. By its graduate standards of admission in all its departments, thus insuring to the professional as well as nonprofessional pursuits that general informa-

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tion and that mental discipline which are requisite to the highest success, it will greatly advance the various professions in rank and real value.

11. With the collections, laboratories, and workers here present, it will greatly encourage all other institutions engaged in the work of original research and investigation, and thus become a very great force in the upbuilding of new arts and professions by the applications of science.

12. By its central faculties and grand cluster of technical and professional schools it will early represent the sum of what is known and become to the whole world a great new fountain of knowledge and inspiration.

13. In turn, its scientific workers will be ever ready to meet the demands of the Government in whatsoever field of inquiry, and will feel in duty bound to qualify gifted students for any and every branch of the public service.

14. Being not in name only, but in fact, free from the narrowing influence of sectarianism in religion and of partisanship in politics, it will be an elevating power within its own domain and in the Nation.

15. It will, in the nature of the case, exert, as no private or sectarian institution can, a most salutary influence upon the several branches and departments of the Government and upon civil affairs generally, elevating their standards and increasing their efficiency.

16. It will dignify the National Capital and make it yet more attractive to all Americans and to the foreign world.

17. Because of its comprehensiveness, highest possible standards, exalted aims, and distinguished service to the cause of human learning, it will command the admiration of the people and greatly strengthen the patriotic sentiment of the country.

18. Because national, it will be to the whole American people a potent means of intellectual advancement, give new dignity and honor to the Republic, and contribute in a high degree to its supremacy among the nations.

19. Because, when once rightly established and duly recognized everywhere, it will have become a mighty means of promoting the world's progress in civilization.

And so the reasons multiply, while the worn-out objections vanish, and we find ourselves more than justified in declaring with emphasis there is nowhere discoverable a single valid excuse for delay in the establishment of the proposed university; while the important and very decided demands for it are many, have been long continued, and inhere in the characteristics of the American people, in the nature of the government they have established and would perpetuate, and in the important relation our country sustains to all the other powers.

SOME ACTUAL CAUSES OF THE DELAY.

There is a great difference sometimes, as in this case, between a reason and a cause; for, while a reason is always entitled to attention and more or less consideration, a cause may be ignored, or promptly arraigned, condemned, and brought to judgment.

Earlier we spoke of the delay of the coming university for more than a century as a fact next to incomprehensible, yet we have had in mind several very important causes which have been quite manifest, namely:

First. At the end of barely half a century we had hardly attained, as a whole people, to such a realization of its possible value as to make the establishment of a university like the one proposed seem so imperative as to lead to the requisite efforts and sacrifices.

Second. It was plain that the cost would be great, while the country was yet poor and multimillionaires were scarcely known. Some delay was then natural and may be generously pardoned.

Third. There was the interruption of the Civil War, with the political conflicts leading up to and growing out of it—conflicts all engrossing and of long continuance.

Fourth. The very unfortunate misconceptions of the few opposing institutions referred to—each of them so circumstanced and so represented at the seat of government as to facilitate the working of adverse plans.

Again, with the wonderful growth of the Republic in area, wealth, and power, too many have ceased to be controlled by the lofty ideals which the fathers cherished—have been to a serious degree materialized, and even made vainglorious, on the grounds that we are not only possessed of a genius and enterprise unparalleled, but have, through these gifts of Heaven, already made such achievements in the productive industries, in the means of intercommunication,

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and in commercial enterprises, as well as such increase of possessions, far and near, with yet greater armies and navies in the coming, as make us look imperial and seem to leave almost nothing else to be desired.

In a rude general sense, these astonishing claims have been so far justified that it should hardly be surprising that the multitude of those directly concerned in producing so great results should, for a time, have lost themselves in self-satisfaction, forgetting that, all put together and important as they are, these things constitute but the beginnings of our civilization, and that in laying so substantial a foundation they have only made the United States of America supremely competent to achievements yet greater, because higher and more enduring, and which are, therefore, imperatively demanded.

But we have a right to expect that the chosen men of the whole Nation, who have been empowered to shape and direct the destinies of the Republic, will be found possessed not only of more than ordinary breadth and foresight, as well as of practical wisdom, but also of so pure a patriotism that it will make them superior not only to partiality and prejudice, which, in matters of this sort, have their root in merely personal, local, or denominational ambitions, but superior also to even the most insidious approaches of a spirit of selfishness and injustice in whatsoever form or guise. For it is such men and such only who will understand the conditions of real greatness, and will hold their observance to be a most solemn and sacred obligation.

Such men will readily comprehend that the source of Grecian greatness is to be sought not in the victories which so quickly made her mistress of southern Europe and northern Africa and for a time the supreme physical force among the nations, but rather in the things so gloriously accomplished by her illustrious philosophers, poets, orators, men of science, artists, and historians—that but for these galaxies of her men of superlative genius and exalted aims, who gave themselves to the elevation and happiness of their people, and who, to the honor of those ruled, were always encouraged and fostered by the state, there would have been no "glorious Greece" in human history; that while her physical conquests were but fleeting and have left her a mite only in the geographic world, her marvelous achievements in the intellectual and spiritual realms still fill the whole earth and will continue to shine as white lights through all time.

Such men as we have a right to count on at the Capitol of the Nation will likewise realize that the glories of Rome are to be sought, not in the conquests made both east and west by her legions, but rather in the peaceful spread of her language, literature, art, science, ethics, philosophy, and law; that these, the fruits of her beneficent genius, at once various and splendid, have been and will ever remain her own chief glories and a priceless legacy to the human race.

Such men will understand that the enduring greatness of this, our own Republic, greatest of all, is to be made sure, not so much by a reckless increase of her population, a stupendous growth of her many productive industries, and the spread of her commerce, or by such increase of her widely scattered possessions as will seem to demand an immense standing army and numberless ships of war; not so much by mere material gains of any and every sort, as by the increasing intelligence of her people of every class and a faithful cultivation of all the virtues upon philosophic as well as religious grounds; by such mastery of economic science as is essential to an unfailing material prosperity; by an increase of zeal in the use of means for the highest possible intellectual culture of those who aspire; by such encouragement as can be given to those who are especially competent to the advancement of knowledge by means of researches and investigations, and by such inculcation of the principles of morality, individual, municipal, State, and national as will insure to us the respect, confidence, and hearty good will of other governments and peoples, and so make this, our Republic, already great, at once secure in peace and a guiding star for all the groping nations of the world.

It was Americans of this high type who laid the foundations of the Republic, and, happily, there have been such men to grace the records of our National Legislature, as well as the annals of our general history, from the beginning until now. But they have not always had their way, for it seems that by the rules and usages under which our legislation is conducted a few unfriendly or unwisely committed Members of either House may embarrass and delay a very great measure for a lifetime or longer.

A fifth, and one of the saddest causes of delay since the modern, more systematic, and persistent agitation of the subject began, is found in such lack of

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attention, and hence want of appreciation and active interest on the part of some in authority who are usually accounted patriotic in sentiment, as have made it possible for the unwisely ambitious managers and supporters of four or five institutions to work their adverse schemes.

Nevertheless, the interest of the Senate, as a body, is put beyond question by a succession of friendly acts, which, though in part already referred to, are here consecutively mentioned, namely:

1. The formation of a "Select Committee to Establish the University of the United States," on June 4, 1890.

2. The action of the Senate, on December 17, 1890, upon motion of Senator Cullom, in continuing said committee during the Fifty-second Congress.

3. The unanimous action of the Senate, on March 2, 1891, in further continuing the said committee.

4. The unanimous order of the Senate, on motion of Senator Proctor, on August 3, 1892, for the printing of the "Memorial in regard to a National University," and again, on August 5, 1892, in unanimously ordering, on motion of Senator Sherman, the printing of 5,000 extra copies of said memorial for the use of the Senate.

5. The unanimous agreement of the Senate's select committee on the able report submitted on March 3, 1893, by Senator Proctor, chairman, which, however, was submitted at the very close of the Fifty-Second Congress and could not be acted upon at that time.

6. The Fifty-third Congress placed Senator Hunton, of Virginia, at the head of the University Committee, who likewise, in the course of time, submitted a unanimous report, and finally succeeded in getting it before the Senate, and in having it affirmatively discussed by himself and Senators Vilas and Kyle, though at so late a day that the coming in of bills having the right of way again prevented final action.

7. Next, there was the very liberal action of the Senate in placing the "Select Committee to Establish the University of the United States" among the standing committees.

8. The report submitted by Senator Kyle, chairman, on March 10, 1896, which included important hearings from a number of citizens of first distinction in the several fields of education, science, letters, and statesmanship, carefully prepared communications in advocacy of the measure from others, and no less than 400 briefer indorsements of it, by letter, from the most competent of advocates in all the States.

9. True, the university cause came to a dead halt through the neglect, most unpardonable, of a Senator from Maryland, by whom four full years were worse than wasted. And yet the abiding interest of the Senate again became manifest in a Congress of earnest effort on the part of its committee's chairman, Mr. Deboe, of Kentucky, who, on April 1, 1902, submitted a very full and convincing report, consisting of a brief statement of what had been done to secure action, a showing of the character of the opposition made, and of the status of the enterprise at that time, together with numerous hearings, papers, addresses, 300 additional letters of approval from eminent men in all parts of the country, and a list of members of the National University Committee of Four Hundred; the whole making a volume of 192 pages, which was printed in a large edition, and, if we have been correctly informed, with but one objection in the Senate. Chairman Deboe tried in vain, however, to get the pending bill taken up by the Senate. Other measures in number crowded to the front and kept it back to the end of the Fifty-seventh Congress.

That was in 1902, since which time until now, though often and earnestly petitioned for, no meeting of the Senate's University Committee has been called.

It can not be doubted that the honorable Senate will pardon the freedom with which we have spoken, in view of the very serious nature of the facts recited; in view also of the important favors so promptly granted by it upon simple request of existing private and denominational university organizations meanwhile, and of the difficulty we have, therefore, in understanding why it has not yet been pleased to put upon this our national measure, to which it so stands committed before the world, the seal of its approval after 17 years of effort and anxious waiting on the part of a whole nation of educators and a multitude of other friends of the highest learning in all the States. Nor can it be questioned, after this quite full statement of the case, that a reasonable efficiency will hereafter characterize the discharge of duty by those who, under the rules of the Senate, are able either to forward or hinder a cause so important, and which, considering the efforts and sacrifices made in

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its behalf by so long a line of the foremost of patriots, should now be regarded as only less than sacred.

In view of what is proposed and of the historic record referred to, the Senate would have been fully justified in chartering the University of the United States without the formal preliminary of providing a special committee. The known views of the ablest scholars and statesmen of the past hundred and more years of the Republic, supported by no less than 11 of the Chief Magistrates, by the repeated declarations of the National Educational Association during a long period, and by official showings, full and unanswerable, after exhaustive studies in the field universal of the higher education—all these would seem to have furnished the amplest justification for prompt action upon the Edmunds bill of 1890.

And yet, as already shown, there have been no less than eight Congresses without the final requisite action—five of them marked by the Senate's cordial agreement upon affirmative reports, all but one unanimous, and the other three Congresses without so much as a meeting of the Senate's standing committee.

Bearing in mind the readiness with which the several institutions known as universities in the District of Columbia have been chartered, rechartered, and otherwise remarkably favored, one can not but be struck by the contrast; and we are accordingly left to supply an explanation the best we can.

We can imagine how men with more of personal or local pride than love of country or of learning might prefer to maintain a fancied supremacy for the institutions with which they may have been or are connected, for we have seen this same spirit manifested by local and denominational colleges toward the rising State universities. Nevertheless, those universities have risen and are now rising, for the great body of the American people are intelligent enough to recognize the value of the amplest possible means of education, wholly free from the warping influence of any prejudice. Moreover, the opposing institutions have not only not been injured, but have greatly grown and prospered under the influence of an increasing general interest in education consequent on the new appreciation of it thus manifested by the State governments and on the growing demand for learning and intellectual discipline, both as qualifications for important trusts and as conditions of honorable standing and of greater happiness, whether in private or public life.

Just so will it be with the opposing universities in their relations with the national university when once established and in active operation. Besides this, we are bound to hold the general welfare superior to the demands of any mere sentiment of pride or ambition, whether personal or local—most emphatically superior, if such demands are clearly opposed to the common good, as is the case with the opposition above referred to in its relation to hundreds of colleges and univestities which are in full accord with the national university measure, as well as against the recorded judgment of the great body of American scholars, scientists, and statesmen during the entire life of the Nation.

We are still confident that the interests of the higher learning and of the country would be best promoted by a union of the university forces at Washington in one great institution, as but lately was so nearly agreed upon, and are yet ready for such union on terms altogether just and most liberal to all. But if the existing institutions here prefer a separate and wholly independent life, let them continue thus, with ever-increasing prosperity. The more they prosper in a useful and honorable career, the more we shall rejoice. For if, indeed, honorably and patriotically devoted to the advancement of learning and duly concerned for the honor and welfare of the country, they will not stand against the establishment of a university like the one proposed, with very special and important ends in view, both national and universal, but will rather cultivate a liberality of sentiment and seek to strengthen themselves yet more by friendly and even cooperative relations. For, in the first place, since such a university as we ask for is a thing of destiny, there can be no great profit in further delay; and, secondly, inasmuch as its characteristic features will, as we have seen, make it a real help to each of them, while at the same time fulfilling a vastly important mission peculiarly its own and otherwise impossible of fulfillment, it is evidently worse than folly to oppose.

Having thus with some fullness brought to the notice of your honorable body the facts and consideration which most clearly concern the establishment of the proposed University of the United States, because of our regard for the American Senate as of first rank among the legislative bodies of the world and of our abiding faith in its high purpose in this great matter, notwith-

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standing the delays from which the measure has so seriously suffered, we now come to you with confidence.

We come not only in the name of the National University Committee of Four Hundred, which body of competent Americans we more especially represent, but also supported by the emphatic declarations of the National Educational Association, many times repeated since the appointment of its committee of promotion in 1869, as well as by the advocacy of the American Association of State University Presidents—all added to the support given to the general proposition by the many illustrious citizens who have so ably championed the cause independently during the past 120 years.

We come, moreover, in the name of the numberless intelligent and patriotic Americans so well represented by a liberal public press, and in behalf of our beloved country itself, nay, of the cause universal of human advancement, and would respectfully present to you this our most earnest and urgent appeal, praying for the Senate's final affirmative action at the earliest possible day.

AND. D. WHITE.
J. B. HENDERSON.
EPPA HUNTON.
NELSON A. MILES.
GEORGE DEWEY.
HILARY A. HERBERT.
SIMON NEWCOMB.
JOHN LEE CARROLL.
MERRILL E. GATES.
JOHN W. HOYT.

Now, when I came to the Congress with this knowledge in my mind I of course was greatly interested in seeing this matter taken up in the House. It has never had a fair show in the House of Representatives—that is, no such vital efforts as have marked the other end of the Capitol have been made here. It has always played a big part in the Senate. It has been unanimously reported in the Senate many times as the above special report shows, and now the Senate has taken it up again and it will probably be reported favorably within a short time. I hope this House of Congress will take the matter up and at least once show ourselves equal in appreciation of this great question to the upper Chamber. I was asked to address the Association of State University Presidents at their meeting here in Washington November last at which time I outlined to them the ability of this House as I viewed it to put the measure through, when I found to my great gratification that the State universities were back of the movement. I introduced a bill that has met with the State university presidents' ideas. Indeed, it was framed very largely by a committee of that association composed of Presidents James, of Illinois; Thompson, of Ohio; and Ayres, of Tennessee. Chairman James presented the case to the educators in convention assembled in Chicago in 1912. This statement was printed as a Senate document which I insert here:

[Senate Document No. 792, Sixty-second Congress, second session.]

THE NATIONAL UNIVERSITY.

[Address by Edmund J. James, Ph. D., LL. D., president of the University of Illinois, delivered before the National Educational Association at Chicago, Ill., July 9, 1912.]

Ladies and gentlemen, I have been asked to make an address upon the relation of the National Association of State University Presidents to the movement for the establishment of a national university.

I desire to say in the first place that, apart from the facts which I shall give concerning the action of the association, I shall be presenting my own ideas. I believe they represent fairly well those of my colleagues in the asso-

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clation, and yet, as they have not been presented to them for their criticism or indorsement, I wish it to be distinctly understood that I am speaking for nobody but myself in the argument which I shall present on this subject.

After the fullest and most careful discussion of all phases of the subject the National Association of State University Presidents has repeatedly indorsed the project for the establishment of a national university.

This means a university established by the Federal Government of the United States, deriving its support primarily from the Federal Treasury, subject to the ordinary control which a free government exercises over its organizations and their work.

I desire to lay down two or three propositions which seem to me fundamental in securing a proper position from which to judge this whole question. My first proposition is that in a free State education is fundamentally a national function. I do not mean by this that it is necessary for the federal government of a free State to regulate, control, or support education; though it may be desirable that it should do so. If the locality or the State or the two together, in a country like ours, will provide adequately for this national function, it may be properly enough left to them; but if they either do not or will not provide for it, then the Federal Government itself should undertake to see that provision is made. I mean, therefore, that education is a national function in the sense that it is of fundamental importance to the Nation as a whole; that it should be properly performed and if there is no other way to secure its proper performance except through the cooperation of the Federal Government, then we should have this cooperation.

I maintain that in a State like ours education is a national function, because to the permanent endurance of a republic popular education is an absolute necessity, and if it can not be obtained by one form of governmental organization, then it must be obtained by another, or the Nation will suffer the consequences. No free government can long exist which is based upon an illiterate people—nay, I believe we may properly paraphrase Lincoln's great expression on another subject, that this Government can not remain permanently free if it is based upon a population half literate and half illiterate. All the people must become educated to the necessary extent to secure the basis for democratic government, or all will become uneducated, i. e., will fail to secure that degree of education necessary for the preservation of a free State. Now, to my mind, that is a national function in its nature, the adequate performance of which is essential to the existence of a nation. From this point of view education, after the national defense, is the most distinctly national function of all the functions which our society has to perform.

But education is national in its nature from another point of view and should be recognized as such in the organization of our Government. The advantages given by elementary and secondary and higher schools are not limited to the communities which support them. A little red schoolhouse upon a lonely hillside of a New England State may train the man who will head a great movement for reform and progress in a distant State beyond the Rocky Mountains. The people of the latter State profit by the education which that man obtained at the expense of that New England district, and they should, by all standards of fairness, contribute their part toward the support of the school which produced him. In fact, I think it is not too much to say that, taken broadly, the history of this country during the last two generations will demonstrate that in many cases the chief advantage of the school system of a community has redounded to the benefit of other communities in which the particular boys and girls educated in these community schools have subsequently spent their lives and done their work as members of society. Now, if all sections of the country profit by the existence of educational advantages in any one community, then the country and the Nation as a whole should be expected to do its part in developing and supporting these local facilities for education.

There is another reason why education is in its nature a National and not a local or State function, and that is that the disadvantages of the lack of facilities and the lack of schools are not limited to the communities which suffer such lack of school facilities to exist. You hear a man say sometimes that it is up to the community to keep its school, and if it does not wish to keep one let it suffer the consequences. But the same thing is true here as in the case just mentioned, the evil results of inadequate school facilities do not accrue alone to the communities which neglect such matters, but are liable to be of the most serious consequence to other and distant communities, be-

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cause under our scheme of life the ebb and flow of our population is so continuous and so extensive that the boys and girls who have missed the opportunity for the highest development, owing to the lack of these local facilities, become members of other communities and go into them and into their work weighted down with all the ignorance and apathy and indifference to higher things which is characteristic of an ignorant population as a whole. So that alike by the distributions of its advantages and the distributions of its disadvantages, popular education is in its nature a National and not merely a State and local issue, a National function and not merely a State and local function, and consequently, unless the locality and the State can and will perform this function satisfactorily, the Nation must come in as a unit and through its organized representative, the Federal Government, contribute its share in this way to the support of this common institution.

We must not lose sight of the fact that it is after all the American people as a whole that pay the bills. It is not the Nation distinct from the State or the State distinct from the locality, but it is the locality and the State taken in their totality which make up the Nation; and it is therefore a mere question of expediency through what organ and to what extent the people will exercise their power for the purpose of promoting the public welfare.

Now, there is another important reason why the people of the United States should aid the cause of education through their Federal Government as well as through their State and local government, and that is that the people as a whole can do certain things through the cooperation of their Federal Government which they can not do through their State government or through their local government alone. The expense of an adequate educational system is enormous, and grows continually with the rising standard of the people as to what satisfactory education is. An adequate revenue system will draw upon national sources of revenue through the Federal Government, upon State sources of revenue through the State, upon local sources of revenue through the local government. Some sources of wealth may be more easily and efficiently tapped through the Federal Government than through the State or local government, and vice versa.

In our scheme of Federal Government in this country we handed over to the central authority a revenue power—I will not say more than adequate for the Federal purposes which we incorporated in our Constitution, but I will say more adequate to accomplish the national ends contemplated in the law than were given either to the State or the locality. The Federal Government can raise funds in many respects more easily than either the State or the locality. And a sound financial system demands that that element in our system shall raise the revenue which it can raise most easily, and then a reasonable distribution of the revenue so raised shall be made among the various Federal functions and among the State and local functions.

I think our history has demonstrated clearly enough already that education can never be properly cared for in this country unless we draw upon national sources of revenue as a means of assisting in its support.

Owing to history which I need not recount, the Southern States, for example, find themselves in the position of having two independent and complete systems of education, for the white and colored races, respectively. It is quite unreasonable to hope that in our day and generation the southern communities will be wealthy enough, or, what amounts to the same thing for our purpose, will think they are wealthy enough to care adequately for these great interests, and if the people will not utilize their other sources of revenue and their other organs of government to assist in providing a part of the means for the solution of this problem, we shall still continue to suffer as we have suffered for generations by this situation.

My next proposition is that this country can not solve its educational problems in the large until it recognizes that education is the business of the Nation and that pecuniary assistance for its support in a large way shall come through the organs of the Nation as a unit.

We can not in fact get the money in any other way. We refer, of course, by preference in our educational discussions to the unhappy educational conditions of certain portions of the South. But the conditions are just as really and just as truly inadequate over whole sections of the Northern States as they are in the South. We need not go out of the State of Illinois itself to find schools which do not deserve that name. We need not go outside of Illinois to find local communities which, after taxing themselves to the limit which the law allows, still have not sufficient money to maintain during the months in which

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a child ought to be in school the kind of school which it is worth the child's while to attend.

There is another important matter which we ought not to lose sight of. Great national issues are pushed forward only when it is possible to secure national attention for them. Only when they have become national in a formal as well as an informal way. Only when the Nation is discussing them as great national issues. If we could get national attention concentrated upon our educational problems year after year as one of the fundamental issues, going to the very life of the Nation itself, we should make vastly greater progress than we do. And this attention we shall get when we recognize the essentially national character of education by making educational policy a part of national policy. When the Federal Congress discusses educational questions as fully, as completely as they discuss questions of defense and the tariff and internal improvements, we shall be in a way of securing for educational issues that attention which is necessary to their continuous and rapid solution.

Intimately connected with this fact, namely, the necessity of securing national attention for the consideration of national problems, if we wish to hasten their solution, is the further one that we could advance with far greater certainty and with far greater speed our national standards—i. e., the standards of the people taken as a whole and in their local organizations—if we can get before the Nation as a whole a proper standard of what education means and what education ought to mean.

The Nation, then, and not merely the local school district or community or State, must become an educational unit in all grades of education.

It has already become so to a certain extent. It is becoming so more and more with every passing day. Unequally, it is true, in spots only here and there, but steadily and persistently. The Federal Government has granted lands for the support of elementary education in nearly all the States of the Union within whose territory were to be found large stretches of Government-owned land. In fact, the Federal grants were the foundations of the school funds in the vast majority of the States of the Union. And out of these grants has proceeded the organization of a system or scheme of education in nearly three-fourths of the States of the Union. But the Federal Government has not been content with this. It began some 50 years ago the policy of developing within each State in the Union a higher institution of learning, supported in large part, first, by Federal grants of land; second, by the grants of money realized from the sale of land; and, finally, by grants of money raised by the general revenue system of the Government. And to-day we have 67 such institutions which owe a part or the whole of their income to the action of the Federal Government. The aggregate value of the permanent funds and equipment of these land-grant colleges themselves exceeds to-day $125,000,000. The total income of these institutions in 1910 was nearly $23,000,000. It would take an endowment fund of over $450,000,000 to produce this income.

We take pride here in Illinois in the fact that it was an Illinois farmer and professor who first formulated this plan, and that the Legislature of Illinois was the first American legislature to stand strongly behind this policy of Federal grants to higher education within the States. It has become the greatest scheme of an educational endowment which the world has ever seen. The Federal Government itself contributes only a small part of the total funds necessary for the support of these institutions, but it was the giving of that small part which made the rest of it possible, which stimulated local and State interest, which, by fixing national standards, stimulated the Nation to rise to these standards. I have very little doubt myself that if it had not been for the action of the Federal Government in making these appropriations for the development of agriculture and the mechanic arts within the States, we should be a whole generation behind what we are in the development of our educational system.

Incidentally I may say that the House of Representatives of the Illinois Legislature has again led the way in urging upon the Federal Government the necessity of large additional grants for educational purposes by sending to Congress a unanimous petition, as follows:

> "Whereas the Legislature of Illinois, by the joint resolution of February eighth, eighteen hundred and fifty-three, was the first among the American legislatures to petition the Congress of the United States to make a grant of public land for each State in the Union for the liberal endowment of a system of industrial universities, one in each State, to promote the more liberal and practical education of our industrial classes and their teachers; and

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"Whereas the Congress not only made a liberal grant of land in the year eighteen hundred and sixty-two for this purpose, but has also followed up this policy once begun by still more liberal appropriations for the support of higher education in agriculture and the mechanic arts, resulting in the great chain of colleges for agriculture and the mechanic arts to be found in every State and Territory in the Union; and

"Whereas the time has now come for the adoption of a similar policy in the field of elementary and secondary education: Therefore be it

"*Resolved by the House of Representatives of the State of Illinois, the Senate concurring herein*, That the Congress of the United States be respectfully petitioned to appropriate annually to each State and Territory in the Union a sum equal to one dollar per head of the population of said State or Territory as ascertained by the last census, for the purpose of establishing, maintaining, and extending in the elementary and secondary schools of said States and Territories, while not excluding other elementary and secondary subjects, such practical, industrial, and vocational training including agriculture, the mechanic arts, domestic science, manual training, commercial subjects, and such instruction in other similar subjects of practical nature as the interests of the community may seem to demand; and

"*Resolved further*, That our Senators in Congress be instructed and our Representatives be requested to use their best exertions to produce the passage of a law of Congress donating said sum to each State and Territory in the Union for said purpose; and

"*Resolved further*, That the governor of this State is hereby requested to forward a copy of the foregoing resolutions to our Senators and Representatives in Congress and to the executives and legislatures of each of the other States and Territories, inviting them to cooperate with us in this meritorious enterprise."

I wish to emphasize again very strongly that national aid to education, whether lower or higher, does not necessarily mean excessive Federal centralization and control. The extent to which the Federal Government shall have control of the funds which it devotes to education is a matter of expediency to be settled from time to time and from generation to generation as national and local needs and possibilities may dictate.

I should like to call attention to one other fact, and that is that the Federal Government, when it wished to develop by the expenditures of a comparatively small sum of money a system of educational institutions which should have a profound effect upon the development of elementary and secondary education, it chose to establish colleges, not high schools; colleges, not grade schools; colleges, not kindergartens. In other words, it recognized that in the development of an educational system in a country, progress goes often from the so-called higher to the lower. You can not develop a good high-school system unless you have a good college system which can supply the necessary teachers, the necessary guidance, the necessary stimulation, the necessary leadership. You can not have good grade schools unless you have good high schools which furnish, taken as a whole, the training of the teachers employed in these elementary schools. The converse is of course equally true, that you can not develop your college beyond a certain low level of efficiency unless the high school can be brought up to a high level. Nor can you raise the level of your high school to what it ought to be unless the grade work is done properly.

I desire again to call attention to the importance to educational advance of securing a national formulation, a national organization of the educational idea and educational ideal.

There is a subtle moral and psychological reaction upon the people as a whole arising from the formulation and incorporation of a national ideal in a practical national policy which spells progress and success for movements which are able to find such national expression.

When, as suggested above, education is as regularly the subject of national debate and national conflict as the tariff, banking, and currency, internal improvements, we shall take another long step forward in our educational development.

What I have thus far said applies to all grades of education alike, and it is upon this foundation that in my advocacy of a national university I take my stand. If the views thus far advanced command your assent, I believe I shall have your consent to the further proposition I advance, namely, that one of the essential elements of our American system of education is the kind of a university which the Federal Government can build and which shall stand, so to speak, at the apex of our educational pyramid, or if you choose to reverse the

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simile, it is all one to me—which shall be the foundation stone upon which the pyramid of national education shall be erected; for all history shows that from the universities, from the highest schools have gone forth steadily these influences which have molded and shaped and fashioned the popular education in all times and in all countries.

I mean by a national university an institution sufficiently like the ordinary institutions with which you are all acquainted to be thoroughly familiar to you; an institution where the head need not confine himself to securing funds nor investing same, but seek investigators, and by your aid find students, etc.; a teaching and training as well as an investigating institution, manned with the best men in all departments in which the human intellect has exercised itself, drawn from the entire world, equipped with all that money can provide, for the purpose of stimulating and increasing our interest in the world of the spirit and the world of sense about us.

Now, one of the fundamental purposes of a university system is to beget, diffuse, and establish, in the mind—nay, I will say also in the heart—of the people the scientific spirit and the scientific method. If this can be accomplished, the face of the world will be changed. Now, this can be done in certain respects more easily and more thoroughly and more rapidly by means of a system of State and National universities than by any other means.

In what I am about to say I am not animated by any spirit of opposition to the historic private institutions of this country. He would be an ungrateful American indeed who would cast any slur upon Harvard and Yale and Princeton, and the scores of more recently founded private universities, like Hopkins, Chicago, and Leland Stanford, and Northwestern, which are such an honor to our country and our civilization. I should certainly consider myself an ingrate if I should say anything derogatory of Harvard, or Pennsylvania, or Chicago, or Northwestern, where as a student or professor or president I had an opportunity to prepare myself for public service, and to have some small part in the glorious work of these institutions. All honor to them, and increasing power and glory and prosperity. But, friends, however great they may become—and may their shadow never grow less—they can never accomplish the purposes we have here in mind, namely, to incorporate in a visible form the national ideal of university education.

I have long been a warm admirer of President Eliot, in many respects the greatest figure in American education. He was kind to me personally when I was a freshman at Harvard. He was for more than a generation my guide, philosopher, and friend in the field of university education and administration. I think it is not too much to say that he revolutionized American higher education and revolutionized it to its great betterment.

But I know no more striking illustration of the fundamental weakness that doth beset us all than President Eliot's notion that he could make of Harvard a national university in the sense that we have been using the term here; that he could make a private institution, dependent for its resources upon the liberality and self-sacrifice of generous alumni, even though they should be still more liberal and more self-sacrificing, or upon the whims of rich men, even though they should be multiplied in number, situated upon the edge of the country, even in such a glorious city as Boston—that he could make an institution so located, and so fathered and mothered to be that embodiment of our national ideal of science and education and art which we are looking for. Other men have or have had the same notion for their institutions. Idle and vain hope. Neither Harvard nor Yale nor Columbia nor Princeton, nor all of them taken together, great as is their function, great as is their service, can hope to do this particular service for this country. Nor Mr. Rockefeller nor Mr. Carnegie nor both of them together, though multiplied by five and animated as now by patriotic unselfishness and far-sighted motives, can do this thing for the Nation, which after all only the Nation can do for itself. The State universities of Michigan and Wisconsin and Minnesota and Illinois and the 40 others—no one of them alone nor all of them together, great as they may become—and we are all headed for great things—can hope to fill this place, incorporating in themselves in such a way as to satisfy the national longing, that deep felt, that unexpressed ideal of university education.

The reason is simple. No partial expression will satisfy this longing for wholeness. When that which is perfect shall have come, that which is imperfect will unite with it and help constitute its perfection—private and State institution, with the national university, making one complete system—or it will dry up and disappear. When that which is complete shall have appeared, that which is incomplete must become a part of it or be sloughed off or cast

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into the scrap heap. No national university can exist except as the creation and organ of the national will, to be shaped and directed by it. Supported and sustained by this common will it will be the expression of you and me and all of us, we a part of it and it of us.

Such an institution would not injure but benefit every private and every State university. By its superior support, by its superior prestige, by its greater wealth, it would strike the popular imagination of this country in such a way as to give to the university idea itself an enormous impetus, the reflex effect of which would show itself in the increasing prosperity and development of every private and State institution.

The foundation of Leland Stanford did not injure the University of California, but helped it immensely. The foundation of the University of Chicago did not injure Illinois or Northwestern or Michigan or Wisconsin, but by the bold and striking way in which it raised high aloft the standard of science, and the magnificient way in which it followed this standard, it gave an impetus to the university idea which made the work of every one of these institutions more adequate and more easy.

The same thing would be true in a larger degree of a national university, organized along proper lines, put under proper influence.

Such a national university as I have suggested, located at the site of the Federal Government, supported by appropriations from the Federal Treasury, controlled and regulated by Federal law, would easily become, as it ought, the crowning institution of our university system, private and State alike; (1) it could supplement the shortcomings of our other institutions as well as emphasize their excellences; (2) it could undertake many enterprises of national scope which no single institution, public or private, can afford to undertake; (3) it could offer to our best qualified young men and young women opportunities which only a nation like ours can afford to offer.

Such an institution located in the National Capital would exercise a vigorous and salutary influence on the course of Federal legislation itself. Its pointed spires and gilded domes would of themselves be powerful though mute monitors, calling attention to the claims of science to be the guide of legislations.

Such an institution located in the center of political power of the greatest Nation on earth would attract in large numbers the bright and promising youth of other countries, who as students here would imbibe those fundamental American ideas which we fondly believe are destined to work out the salvation of the world when they shall have done their perfect work, while these youth would gain added respect for our society and our ideals, which, carried back home and incorporated in their own policies, would contribute powerfully to that mutual understanding which is the surest basis for international peace.

Such an institution located in Washington could utilize for purposes of instruction and investigation the wonderful resources heaped up by the Government of the United States in its scientific departments. The National Library, the museums, and collections of all sorts lie largely fallow at present, waiting for the people of the United States to make their utilization possible in the various schools and colleges of a national university. Such an institution located at such a strategic point will wield a subtle ever-deepening and widening influence over the whole American people in the direction of increasing their interest and belief in science as an important element in private and national life. It will be their university, and they will come to take an increasing pride in and appreciation for the work it is doing, and thus will by this reflex effect be trained to gradually entertain an ever-deeper respect for the standards and ideals of higher education itself.

Friends, such an institution is coming, as surely and irresistibly as the tides of ocean. Will you help it or will you oppose it, or worse than either, will you do nothing?

This National Educational Association could secure the establishment of this institution in a short time if it would only go after it in earnest. Ignorance and apathy and prejudice have thus far been most potent in preventing the realization of this dream of Washington.

Private institutions, religious and secular, have opposed thus far successfully the movement. Private individuals, men of wealth, men of no wealth, men of ideas, men of no ideas have set themselves against this project. It is up to you and the like of you to help bring this about in our day and generation.

This great power can be set to work in the interests of science and art and education, supplementing, reinforcing our defective and weak system of education. Every day its coming is delayed represents so much pure loss to the

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causes in which you are interested, to the welfare of this Nation, and to civilization in general by all that it might contribute if it were now at work.

This institution, this national university, would be one of the most important elements in making this Nation of ours in reality what it is in our dreams and hopes and fond anticipations, the leader of the world in art, in science and education, and in civilization.

STATEMENT EXPLAINING THE BILL.

If you will allow me, I would like to read to you a statement of the bill which will explain its main scope:

This bill provides that there shall be established in the District of Columbia an institution of higher learning to be known as the National University of the United States.

Its purpose is to promote the advance of science, pure and applied, and of the liberal and fine arts by original investigation and research, and such other means as may appear suitable to the purpose in view.

Furthermore, to train men and women for posts of responsibility in the public and private service of State and Nation; also to cooperate with the scientific departments of the Federal Government and with the various colleges and universities, public and private, throughout the country. This last purpose is one of the most important. I will append a fuller statement later of this feature.

It is to be a graduate institution. Students will not be admitted until they have secured the degree of bachelor of arts or science at some reputable college in this or other countries or for a full equivalent training.

The ultimate authority in the government of the institution is vested in a board of trustees appointed by the President of the United States; but this board must consult and consider the counsel and advice of a national advisory council consisting of one representative from each State in the Union, this representative to be the president of the State university in those States in which there is a State university, and in those States where no such institution exists, a person to be appointed by the governor of the State.

So that the board of trustees is a group of 13 people, 12 in addition to the Commissioner of Education. These are to be appointed by the President and confirmed by the Senate for a term of 12 years, so arranged that after the first term there will be one going out each year. Then, there is to be in addition to this board an advisory council, made up of one person from each State, to secure the interest of and privilege to each State in the university. This council is to be composed of the president of the State university in each State where there is a State university, and where there is not any such the governor of the State is to appoint the member for the State.

This form of organization secures two great advantages. In the first place, it secures the efficiency, economy, promptness, and vigor of administration characteristic of a small board vested with full authority to act.

That board is composed of 13 members. It is made an uneven number in order to avoid the frequency of ties.

The advisory council may at any time, however, exert a suspensive veto in such a way that the board must reconsider any action vetoed by the council, but may reaffirm its action by a two-thirds vote in spite of the advice of the council.

The administrative features of the university are to be under a board of control. But, suppose the board of trustees should do something that this advisory council, made up of one man from each State, does not agree to. Now, that action can not go into effect until after six months, when this advisory council, made up of one man from each State, shall act. If the advisory council does not ratify what the board of trustees has done, then the board of trustees can override the advisory council by a two-thirds vote, and if they do not get a two-thirds vote the action of the board is annulled.

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In this way the board of trustees secures the advice of a national representative body, reflecting the sentiments and opinions of each State of the Union.

The institution is authorized to accept gifts and donations of money or property from any private citizen or public body, provided these gifts be given with no conditions attached for the general purposes of the university. If any money is offered with condititons it can only be accepted with the consent of the Congress of the United States.

I do not think any money should be accepted with any strings to it, but Congress could do it if it wanted to do it.

Mr. PLATT. You mean that you would not have funds created for library purposes or anything like that?

Mr. FESS. No; I mean you can not accept any funds from men who give conditionally, like the gifts of Carnegie or Rockefeller with certain conditions which they reserve.

Mr. PLATT. Then you would not consider such a thing as this: That this money should be used for the purpose of books, considering that as a condition?

Mr. FESS. Oh, no.

The act carries with it an appropriation of $500,000 for the fiscal year 1914, and provides that the board of trustees shall proceed to organize under this act and carry out the intent and purpose of the same, as soon as the members shall have been appointed by the President.

I do not think that we ought to take the position that the Senate originally took, when the matter was so favorably considered there—that there would be no outlay at all. If the Government undertakes this work the Government ought, I think, to proceed on the basis that it can be made a success, and I do not believe in the idea of saying that there is to be no money involved. This is the richest Government in the world, and if a national university is worth anything the Government can certainly afford to make sufficient appropriation to organize it and get it started.

The scope of the work of the university will not interfere with any other institution of higher learning, as it can not duplicate such work. It is not to be an additional university similar to those already established. Such an institution is both unnecessary and undesirable. As Harvard is above Antioch because of its wider scope and greater equipment, so the national university must be above Harvard. As the college feeds the university in America, so the college and university must feed the national university. The latter can not interfere with the former, but must largely depend upon them.

For the same reason the national university can not interfere with either local or denominational institutions, but will be a substantial advantage to them. The national university is to be the climax of American educational structure, beginning with the kindergarten and ending in this consummation. It is the virtual assembling of the countries' richest material found in this greatest center of scientific activity of the world, by opening it to the research graduates under the direction of the finest group of experts in the world.

The CHAIRMAN. Do I understand that this university will be established for the purpose of even higher education than that which is already given by the different universities in the different States?

Mr. FESS. Yes, sir. The idea, Mr. Chairman, is that when we find anywhere in the United States an unusually brilliant person who has great promise and yet no place in America for him to go to continue his original research, which fact compels him either to go to Europe—Berlin or Paris—or else cease his investigations, we should be able to provide that place here. It seems to me that the Government would be justified in opening up the way, even by a sys-

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tem of scholarships where an outlay of money would be entailed, whereby this person who may be without means could come here and by doing certain work for the Government, perhaps in some of the Government expert bureaus, part of his time there in the service of the Government and part of his time devoted to his research similar to what they do in Germany, and like the work Dean Schneider explained they carry on in Cincinnati in the lower grades, he can continue his investigations in the interest of advanced knowledge. This would give us the chance to multiply the great scientific discoveries of the country. The Berlin University discovered many great men whose fruits are Germany's standing before the world. Among them appear the name of Fichte, Germany's greatest educator, and through him and others, Hegel; through him Schilling; and then Helmholst, the famous chemist; through these the world has the famous Hertz, who was the pioneer of the wireless telegraph, and who died at the age of 37. Here is a group in Germany of the finest minds in the world, all nesting about the great University of Berlin. We have now and then men whose brilliancy is never brought to the fore because they have to stop their research and go out to teach or to work to care for the bread-and-butter side of life. It seems to me that we ought to be able to invite these promising men and women to a center such as this and to open up these expert bureaus as laboratories for experiment and let them work out their discoveries in these laboratories.

Why should not the discovery of an antidote for cancer be made here in Washington, or why should not we learn to defeat the white plague here? Dr. Koch made his wonderful discovery as a research student in the laboratory. He did not gain his rank as a practitioner but as an investigator. Roentgen pursured the same course in the discovery of the X rays. This city, as was said, is our greatest scientific center, and it ought to be opened up to our investigators. Our Army has undoubtedly the greatest engineers of the earth, as was proven in the Canal Zone by the expert work carried on in every feature of that feat. In the field of sanitation Col. Gorgas is an example of what the Army can furnish in the way of experts. When I was down in Panama I sat one day on the porch of the Tivoli Hotel and talked to an Australian sitting alongside of me. I found that he had been sent there by the Australian Government to study the sanitation methods in Panama. When he found I was from the States he said, "The countries of the world are paying tribute to what your country is doing in the way of sanitation." The most cursory knowledge of his work will convince men of the truth of that statement. Now, the Government has developed such a man as Col. Gorgas, and he ought not to have one moment of his time distracted from his experiments along the line of sanitation. I doubt not the Government could discover a number of men like him if we had this national university to organize the expert material under the direction of great scholars. It is said that when Sir Humphrey Davy was asked what was his greatest discovery he replied immediately, "Michael Faraday." Michael Faraday was the boy that had come into his laboratory and afterwards surpassed him in the field that had made his master famous.

The CHAIRMAN. Then this university would be composed of men of the highest degree of education?

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Mr. FESS. Yes, sir.

The CHAIRMAN. Largely for the purpose of the deepest possible research along every scientific line?

Mr. FESS. Certainly.

The CHAIRMAN. At the same time, however, this would be a university where pupils would enter for the purpose of obtaining the highest possible education. Is that true?

Mr. FESS. Yes. Only they would have to graduate from some other institution before they could enter here.

The CHAIRMAN. They would have to graduate from some other institution?

Mr. FESS. Yes, sir. We would not come into competition with these other universities. That would be unnecessary.

The CHAIRMAN. Now, what would be the effect upon the State universities?

Mr. FESS. It would have this effect: The State universities would be the feeders of this university. They would benefit by such an institution, because there would be men who would go through the State universities in order that when they got through they would have the credentials to admit them to the national university. That is one reason the State university presidents are back of this project. They appreciate the position that we ought to have the climax of our educational system in Washington to which we can send our strongest men and women. Then, on the other hand, they will look to this university in return for teachers of the highest expert grade for use in their own universities. If they want some man who has gone beyond the ordinary scope of their own university they will look for him here.

The CHAIRMAN. In other words, the autonomy of the universities of the different States would not in the least be affected?

Mr. FESS. Oh, no.

The CHAIRMAN. But it would be advanced?

Mr. FESS. Oh, yes; it would be advanced. Every State university is back of this proposition, because it would be a distinct advantage to our system of training.

Mr. CLANCY. Take, for example, the University of Syracuse. Every 10 years the faculty has a year's leave of absence with full salary, and instead of doing nothing they go to Europe to study, but they never come here.

Mr. FESS. No, sir; they go to Europe but never come here.

Mr. PLATT. Would you say that the laboratories and departments in Washington are closed to the research work of scientific men now?

Mr. FESS. Oh, no.

It is really using in a systematic way the material of a great university awaiting organization.

It will not interfere with the valuable work of the experts here, but will be an assistance. No doubt there will be found in the groups of students, men who will far surpass their directors in the years to come. When Sir Humphrey Davy was asked his greatest discovery, he instantly replied, "Michael Faraday" (his student). When John Adams was asked what was his greatest service to the Nation, he replied John Marshall, the great Chief Justice. So it will be here. The greatest work of these governmental experts will not be laws of nature, but rather research men in the realm of the laws of nature, etc. Berlin University stands without doubt as the greatest single

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force in the Empire of Germany. The University of Paris in a less degree has such relation to France.

The national university will not only hold that relation to this country, but in the very best sense it will occupy that relation to all the nations of the world. In the best sense it will become the university of the world. There are more points of cosmopolitan interest in America than in any other country. We do not want the university merely for the sake of preventing our thousands of graduate students going to Berlin for advanced work which they can not get here in our own country. Perhaps it is an advantage in a way to have our advanced thinkers spending time in European centers of learning, but it will answer the objections that they must go or else cease their investigations.

But mainly the university will become the center of graduate work for the advanced students of all the world. In this connection the recent dispatch from South America is significant.

I clipped out a dispatch that was sent from Argentina to a certain newspaper wherein it was stated that the Argentine Congress was negotiating with us to see whether they could have a certain number of students here every year to spend a certain time in the universities. Such a plan would make an opening for an American professor in the University of Argentina. We have that affiliation with Germany. We aim to have some American university professor in some German university all the time, and we aim to keep in some parts of the country a German university professor in an Amreican university. Now, we ought to have that on a large scale, a great national university. If we had in this center, as Mr. Clancy said, just as Syracuse is doing, instead of getting a leave of absence every 10 years to go to Europe to study they could come here and study. Here would be the center, and they would not only come from our own universities, but from all the countries of Europe and South America, and this city would soon shelter the greatest group of scholars in the world. This custom of all great universities allowing at regular intervals each full professor a year's leave of absence to study would make this city a seat of university training.

This university will have an organic affiliation with educational institutions of other countries by which we will have the exchange of professorship. It would be difficult to estimate the influence upon a better relationship with all countries of ideas as an organization of this sort located at the capital of the Nation. It would be a far greater insurance against world warfare than battleships.

It goes without saying that such an institution must be free from all characteristics that dominate modern college life. Modern athletics, college spirit, and the consequent police disciplinary features, all proper in their places, will have no place here. Even degrees are not to be sought.

The CHAIRMAN. Even degrees are not to be sought?

Mr. FESS. No. The bill forbids them. We do not want people to come here for a degree, but to come here in the spirit of scholarship to find out things that ought to be known, to advance knowledge for truth's sake,

Mr. PLATT. Where will they get their degrees?

Mr. FESS. They will get their degrees from the places whence they came.

Mr. PLATT. They will not have anything to show for what they do here?

Mr. FESS. No, sir. I want to take that prize idea out of the mind. Make it a pursuit for the real reward of scholarship.

Mr. PLATT. I do not think I can agree with you on that. I think that a national university should start as an examining board which does nothing but grant degrees.

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Mr. FESS. Oh, no. You would have the opposition of all the schools at once, and defeat the very purpose of the university.

Mr. PLATT. I do not think so.

Mr. FESS. This is what I would like to have done: Here in Washington air navigation was demonstrated. It was perfected as far as it went by Langley, of the Smithsonian Institution, right here in Washington. From that impetus the Wright brothers advanced the work. Now, institutions like the Smithsonian Institution are working along the line of trying to find a substitute for fuel, coal, gas, and oil. You see, those substances are going to be exhausted some day. The scientists of the world are trying to find a substitute. We know that all the energy there is in coal came from the sun, and the scholars are trying to discover how we can directly harness this energy from the sun. I would like to see this thing developed in Washington in an institution equipped to carry out the research necessary. It will be developed just as surely as we are sitting in this room. We ought to have scientists supported by the Government.

The CHAIRMAN. We have supplied an artificial light in the shape of electricity. Why not a substitute for heat?

Mr. FESS. Yes, sir. The Smithsonian Institution to-day has published in its history over 12,000 different titles, covering the results of original research in gathering knowledge. It is connected with 60,000 people in all parts of the world.

Mr. PLATT. It is, then, a national university?

Mr. FESS. Yes, sir; it is a good example of what a university should be and what such an institution could do if it were open to research men.

Mr. PLATT. But is it not open to research men?

Mr. FESS. Well, I do not mean to say that it is closed to research men, because that would not be fair to the institution, but it is not a laboratory in the sense in which this national university would be.

Mr. PLATT. It seems to me that it is doing just exactly what your bill provides.

Mr. FESS. It is in a way, but in a small way in comparision with what it could do with more equipment.

Mr. PLATT. The Library of Congress is supposed to be open only to members of Congress, but any scholar who comes here has no trouble whatever in availing himself of it.

Mr. FESS. That is true. But it should be the training school for librarians throughout the country.

Mr. PLATT. And the same thing is true of all the departments.

Mr. FESS. The late Secretary Langley, of the Smithsonian Institution, recommended very strongly the national university proposition. I will insert my statement here which I made to the educators of the country and which was published in 1913 in the Antioch College bulletin.

[Hon. S. D. Fess in the College Bulletin, Antioch College, Yellow Springs, Ohio, December, 1913.]

THE NATIONAL UNIVERSITY.

"INDIFFERENCE A NATIONAL MISFORTUNE."

Of the many national inconsistencies noticed in our history the most striking, and most difficult to explain, is the Nation's treatment of Washington's desires for the establishment in the Capital of a national university. Any cursory read-

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ing of his letters and papers, private and public, will indicate his insistence upon such a consummation. He made it a specific item of recommendation at different times in his messages to Congress. He communicated his views in writing to such men as Randolph, Hamilton, and Jefferson, members of his Cabinet. He made specific recommendations to State officials of Virginia, including Gov. Brooke, in 1795; he solemnly urged it in his Farewell Address in 1796, and in the same year he communicated his wish to the Commissioners of the District of Columbia, even going so far as to indicate his willingness to set aside a fund for its establishment and to specify the probable site of the plant.

Before his death he had the indorsement of most public men, inside and outside of the two Houses of Congress. In 1799 his will contained a bequest of 50 shares ($500 each) of Potomac stock for the beginning.

His scheme was most heartily indorsed in official capacity by John Adams, Thomas Jefferson, James Madison, James Monroe, J. Q. Adams, and Andrew Jackson. Jefferson, one of the country's earliest patrons of education, even went to the extent of proposing to Gen. Washington the transplanting of a European college, faculty and all, as an early step in the enterprise.

The appearance near the forties of sectional differences and the expression of the fear of too much centralization caused the friends of the enterprise to rest. In the forties and fifties much talk and some efforts were active in building such an institution at Albany, N. Y. The Civil War further shut out interest in the Washington project.

Interest was finally revived in 1869 by John W. Hoyt, who had made a tour of careful inspection of the European institutions of higher learning. The merits of Commissioner Hoyt's efforts lie in his effective work in creating a favorable impression among educators in the country. The results of his propaganda were noticed in the interest of the National Teachers' Association. At its annual meeting in 1869, held at Trenton, N. J., the association adopted a resolution offered by A. J. Rickoff, of Ohio, committing the association to the project. It also appointed a committee of 35, representing all parts of the Union and all the liberal as well as business professions, and upon which appear the names of Rickoff, of Ohio, and Wickersham, of Pennsylvania. From that day to this this great association has stood committed to the consummation of the great undertaking. Of all its many great heads not one has rendered more valiant service than its present head, President Swain, of Swarthmore College.

It was largely through this body, ably seconded by numerous great scholars in college and university circles, that there was won support of such men as Senator Charles Sumner, T. O. White, J. W. Patterson, M. H. Carpenter, J. J. Ingalls, W. B. Allison, L. Q. C. Lamar, A. H. Garland, and many others. Through the influence of these men a bill was introduced in both Houses of Congress in 1872. By this time the propaganda was winning the support of most of the college heads of the country. One very important exception was President Charles W. Eliot. In 1873 President Grant made the university proposition an item of favorable recommendation in his annual message. The National Education Association continued by resolution and addresses to keep the matter before the public. President Hayes indorsed the project in 1878. L. Q. C. Lamar, Secretary of the Interior under Cleveland, called the attention of the country to the neglect in his report to the President. In 1890 the Senate created a special standing committee to be known as the National University Committee, which is still in existence, although quite dormant. The National Association of State University Presidents, representing all the State universities of the Nation, is also another significant association backing the movement.

Looking over the activities working for this consummation, one is bewildered over the fact that in the face of it all there is nothing accomplished by the Government.

Note the factors:

1. Urged by Washington.
2. Seconded by at least 10 of his successors.
3. Supported by at least half a dozen justices of the Supreme Court, including Chief Justices Jay, Rutledge, Marshall, and Chase.
4. Formally recommended by at least 20 cabinet ministers, among them the most brilliant lights of our Nation.
5. Formal support by the heads of both the Army and Navy.
6. Enthusiastic advocacy of former heads of colleges and universities, at least 400 of them, including Cornell, Yale, Johns Hopkins, Columbia, Chicago, and Leland Stanford.
7. Almost unanimous indorsement of both the scholars and learned associations of the country.

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8. Advocacy by the leading clergymen of the country.
9. Advocacy of the public school men and women in the country.
10. Support of various women's organizations of the land.
11. Warm support at different times of the Senate as a body.

This array of advocates would seem enough to enact any law that had an element of merit in it.

This support is based upon the following facts:

Notwithstanding the galaxy of American higher educational institutions, its colleges, universities, and technical institutions, many of which stand very high educationally, the country does not have a university in the true sense.

In every American institution, however good, the chief work, the mass of students, the large proportion of teaching force, the major use of laboratories, etc., are devoted to undergraduate work, to college rather than university work. We have no single institution devoted to the sort of work chiefly done by the Berlin University.

What we must have in Washington is an institution to multiply, to develop scholarship; not to teach learners, but to produce research workers; not so much to disseminate knowledge already known, but to cultivate the power to find what is yet unknown.

Such an institution will not interfere with nor supersede the hundreds of institutions already existing, but it will supplement them, as it will indeed depend upon them for its supply of students seeking the rank of special experts. Instead of weakening the existent university or college, like the multiplied collective strand, it gains all its strength from a combination of all, without weakening any one. Such an institution will not compete by duplicating, simply because entrance here will not be allowed to anyone who has not, in at least some line, reached the rank of a degree from the standardized institutions. This instead of crippling the existent university, will be a spur to improve its work and maintain its standard. While it will largely depend for material upon the hundreds of institutions of higher learning, it will in turn substantially assist them by returning to them at divers time the best trained investigators in the world to fill up their teaching force. This institution will hold a relation to the people of the States that is not now known by any institution in the country. It will be looked upon by our citizens with that sense of ownership with which we look upon our national capital. It will be in a unique sense our university, and will develop the sense of pride and support not now felt by any institution. It will thus be sought by all our ambitious men as they pass from university to the more specialized field of expert investigation. Graduate, as well as professor, who may be desired for some special nork now and then, will look toward it. It will thus divert the flow of American students from Berlin, Paris, Oxford, Jena, and Vienna to Washington.

Not only this, but it will most certainly become the most metropolitan institution, patronized by the largest groups of European students as well as students from all other progressive countries in the world. The records of immigration to America for the past 50 years are conclusive of this statement. There is no doubt that the reflex influence of such an institution, in which these advanced thinkers of the world will be submerged in an atmosphere of freedom and self-government, is beyond our comprehension. In these days of armament, when the fear of war is causing all nations insanely to impoverish themselves in building up a defensive foundation, it would not be chimerical to say that a national university filled with the investigators from the warlike countries would be a surer defense than battleships. For such an institution will further and complete our university affiliations begun by President Harper, by which exchanges are made between university professors. We can send a professor for a year to each of the great national universities in Europe in exchange for one from each university there. Such an amicable association between the great thinkers of this and European countries would insure a better understanding of each.

There can not be serious doubt of the effect of such a national university upon scholarship in our own country. Washington long ago had come to be one of the greatest scientific centers of the earth. Here are assembled the most remarkable collections in the way of scientific material known to the scientific world. Here the various departments of scientific investigation, headed by the world's best experts, aided by a group of trained workers, with separate laboratories and experimental facilities, run up into the hundred. Here also are domiciled almost a score of associations devoted to the investiga-

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tions of truth in various spheres. These make Washington attractive to the scholar of all countries. Many of the societies that are not domiciled here hold their annual meeting at the Capital.

If anyone should doubt the wisdom of the establishment of such an institution, upon the ground that we do not need it, or upon the ground of expense, or of corrupt control, or upon any other ground, a complete answer is—the Smithsonian Institution. This institution, established in 1846 with a $500,000 bequest, has proved itself to be one of the most successful in the advancement of knowledge. To-day it is well housed in buildings worth at least as much as the original gift, and it has accumulated collections of books and manuscripts by the simple method of Government exchange, with slight cost to anyone of an amount beyond the original gift. Besides this, here, under such men as Henry Baird, Powell, Newcomb, Goode, Langley, and others, have grown up these rare agencies of advancement in useful knowledge. Here was where telegraphy was perfected and then turned over to the Government. Research on the lines of climate, meteorology, etc., was conducted by these leaders of science and was finally allowed to grow, under governmental agencies, into the present Weather Bureau. Under the direction of Prof. Baird, investigations of life in the sea, with special relation to fish, purely in a scientific interest, grew into the Government Fish Commission, now so important as an agency under experts attempting to find the secret that will enable the race to multiply and thus supply needed food from the wastes of ocean waters. Other important governmental agencies had their beginnings here. The Congressional Library, America's greatest collection of books, rare and otherwise, housed in the world's most beautiful building, was started in the same way by the same institution.

In view of such results flowing from this single establishment, well may we ask, What is the possibility of a national university under a similar management, with means multiplied and a field unlimited? Even to-day there exists in the Capital the university, only awaiting organization, housing, and research students. Probably in no one place in the world is there such a rare and numerous aggregation of material for laboratory use as in Washington. Located in various parts of the city are museums, bureaus, observatories, exchanges, laboratories, etc., any one of which is not to be found in equal richness of material in any place in the country. The Agricultural Department alone is a good example. Here in one department of investigation are found: (*a*) The Weather Bureau, with almost a score of experts at work; (*b*) the Bureau of Animal Industry, with over a dozen experts; (*c*) the Bureau of Plant Industry, with nearly 40 experts; (*d*) the Forest Service, with about 30 experts; (*e*) the Bureau of Chemistry, with at least 35 experts; (*f*) the Bureau of Soils, with 7 experts; (*g*) the Bureau of Entomology, with more than a dozen experts; (*h*) the Bureau of Biological Survey, with a half dozen experts; besides experts—from 6 to 15—in charge of separate Bureaus of Accounts and Disbursements, Publications, Statistics, Library, Experiment Stations, and Public Roads. This last is the youngest of dozens of research foundations here in the Capital which fitly represent the scientific operations of the Government. There is scarcely a single field of expert investigation that is not well worked here, and by the world's greatest experts, and with the highest results. The annual reports of these various bureaus, that number in the hundreds, would make a library. The monetary value represented will reach at least $40,000,000. To operate them requires about $5,000,000 a year. The experts employed, and those elsewhere affiliated with the work here, will number into the hundreds.

The new discoveries announced from time to time are world-wide in import, and some of them revolutionize scientific knowledge. Air navigation will be solved by governmental investigation. The Panama Canal was made possible by governmental engineering skill. Yellow fever was annihilated by a Government expert. Probably more useful applications of scientific knowledge have been perfected in Washington than in any other place in the world.

Those who yearn for the establishment of a national university are moved by the easy possibility of utilizing these unequaled resources for stimulating wide-awake students of research to new fields of discovery. Not to disseminate knowledge already known, but to aid in finding knowledge not yet known—that is the function of a national university. The various State, denominational, and independent institutions are to supply the graduate students and the Government must open to them these rich fields—laboratories, museums, observatories, etc.—for further investigation and discovery.

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Scholarships may be supplied representing from $500 to $2,500 annually. These can be employed by the student, so cooperating with the Government that the student can work part time and investigate part time, as is done in some cities where college and vocation are affiliated. In this way the civil service can be raised and at the same time ambitious learners can continue the work of discovery. It will mean economy and efficiency in Government service and employment and education of research men and women. It would be difficult to estimate the possibilities of such an establishment. This is not chimerical, but most rational. It but awaits the shaping hand.

Congress should at once authorize the President to appoint a board of control with power to select sites. To be effective it should make an ample appropriation. The university organization need not be difficult, but it must attempt to be representative without losing efficiency. There is no need to fear political control, since such an aggregation of scholarship as is contemplated would elevate it above even the hint of party bias. Indeed, such an association of men, of the type, for example, of President Wilson, would be proof against cheap political influence, and would be most salutary in elevating the political tone of the Capital. It would at once appeal to men of great means, which would make it easy for the small contribution of Gen. Washington to be increased into the hundred million figure.

I doubt not that in a brief time such an institution would be the most intellectual center in the world. It would surpass the universities of Paris and Berlin in every phase. If limited to graduate work, whether it granted degrees or not (probably not), and taking its material from the more than 400 institutions of higher learning (not duplicating their work but supplementing it) it will be the culmination of a structure with its supports in every institution in the various States, all of which will look to it as their own goal; and it will easily become a center of research unlike anything known to man.

This possibility has awakened the intellectual interests of our country. It is the explanation of the enthusiastic support of the National Education Association, the Association of State University Presidents, various philosophic and scientific associations, the clergy of the country, the committee of 400 representing the best thought and action in America, and the support of the Senate and House committees, and at three different times by favorable action of the Senate as a body. Political indifference, party jealousy and fear, together with unwillingness to inaugurate a movement that must be perpetual, are the explanation of no definite action by Congress. It would seem time for successful action by the Sixty-third Congress.

Mr. PLATT. But I can not see how you can have a national university without granting degrees of some kind.

Mr. FESS. Well, but the difficulty there, Mr. Platt, is that you immediately put the desire for the title in the mind of the research student instead of the desire to get the truth, and you would come into competition at once with the various universities of the country.

Mr. PLATT. How many universities in the country are there where research work is done? I suppose Harvard, Yale, and Chicago are the only places.

Mr. FESS. Well, they do research work, but it is undergraduate. In other words, it is not unkind to say that we do not have a purely research university in the country. I mean to say that our greatest universities devote most attention to undergraduates.

Mr. PLATT. That is, research and nothing else?

Mr. FESS. Yes, sir.

Mr. PLATT. In England, Oxford University is nothing but an examining board, and so is Cambridge. There are a lot of colleges grouped together, and the men prepare in the colleges to take the examination in the university, and degrees are granted.

Mr. FESS. I believe the real purpose of this research center should not be found in the securing of a degree. I think you are going to defeat the very thing you want if you do that. This must be for the

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pursuit of knowledge for the pure love of securing it, for the advancement of original research.

Mr. RUPLEY. Now, take Gorgas's work in the Panama Canal. Where did he carry on his research work?

Mr. FESS. He did it as a member of the Army when in various parts of the country. He has been a student all his life.

Mr. RUPLEY. He was in Cuba?

Mr. FESS. Yes, sir.

Mr. PLATT. There is a great deal of research work that can not be carried on here. For instance, take the station for the study of marine life at Dry Tortugas and the Woods Hole Laboratory in Massachusetts and such institutions as those.

Mr. FESS. That is in connection with the Smithsonian Institution.

Mr. PLATT. More or less, of course, but it is a separate institution.

Mr. FESS. Yes.

Mr. PLATT. It seems to me that it might be a great advantage to Washington to have a degree-granting body which would recognize the work done anywhere by scientists.

Mr. FESS. Well, that could come as a later consideration. The one goal here is advancement of knowledge in the interest of civilization.

In this most beautiful capital of the greatest Nation, with the galaxy of great buildings housing such treasures of art and science with its many associations representing great learning, the one most significant item of world meanings, the crown of it all is lacking. Somewhere within this center must be located the national university. Should Virginia see fit to recede a portion of the District ceded back to her in 1846 and allow the Nation to surmount the open space across the Potomac facing the Capital with a group of buildings to administer in the interest of the advancement of knowledge, it would seem ideal to me.

How about the expense? First this richest Nation of the world can well afford to support it out of its Treasury. If it would make good the $25,000, the gift of the Father of the Country, for the purpose, it would materialize now not less than $4,000,000. If the Nation would be willing to add to this first gift such gifts as may be offered by benefactors, the endownment can be placed easily in the $100,000,000 mark. It would appear that the time is here for us to act, and materialize the dream of Gen. Washington, so ardently urged by his successors, Adams, Jefferson, Madison, Monroe, J. Q. Adams, Jackson, and others.

It would seem that Virginia especially would gladly second such steps as would appear necessary to carry into effect the hopes of so many of her early statesmen.

The CHAIRMAN. Gentlemen, it is now 12 o'clock. This is a very interesting subject, indeed. Suppose we meet again to-morrow and continue this hearing.

Mr. FESS. That will be satisfactory to me.

(Thereupon, the committee adjourned until to-morrow morning, Tuesday, February 3, 1914, at 10.30 o'clock a. m.)

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NATIONAL UNIVERSITY

HEARINGS

BEFORE THE

COMMITTEE ON EDUCATION

HOUSE OF REPRESENTATIVES

SIXTY-THIRD CONGRESS

SECOND SESSION

ON

H. R. 11749

A BILL TO CREATE A NATIONAL UNIVERSITY AT THE SEAT OF THE FEDERAL GOVERNMENT

No. 3

ADDITIONAL STATEMENT OF

HON. S. D. FESS

A REPRESENTATIVE FROM THE STATE OF OHIO

FEBRUARY 17, 1914

WASHINGTON
GOVERNMENT PRINTING OFFICE
1914

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COMMITTEE ON EDUCATION.

HOUSE OF REPRESENTATIVES, SIXTY-THIRD CONGRESS.

DUDLEY M. HUGHES, Georgia, *Chairman.*

WILLIAM W. RUCKER, Missouri.	JAMES F. BURKE, Pennsylvania.
ROBERT L. DOUGHTON, North Carolina.	CALEB POWERS, Kentucky.
JOHN W. ABERCROMBIE, Alabama.	HORACE M. TOWNER, Iowa.
J. THOMPSON BAKER, New Jersey.	EDMUND PLATT, New York.
JOHN R. CLANCY, New York.	ALLEN T. TREADWAY, Massachusetts.
THOMAS C. THACHER, Massachusetts.	SIMEON D. FESS, Ohio.
STEPHEN A. HOXWORTH, Illinois.	ARTHUR R. RUPLEY, Pennsylvania.

JAMES L. FORT, *Clerk.*

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NATIONAL UNIVERSITY.

COMMITTEE ON EDUCATION,
HOUSE OF REPRESENTATIVES,
Tuesday, February 17, 1914.

The committee this day met, Hon. Dudley M. Hughes (chairman) presiding.

ADDITIONAL STATEMENT OF HON. S. D. FESS.

Mr. FESS. In 1908 the Secretary of the Interior, who is really the head of the Education Department of the Government, since that department is only a bureau of the Interior Department, authorized an investigation of the facilities here in Washington for graduate students, and Dr. Arthur Hadley, president of Yale, made the study. Dr. Elmer E. Brown, Commissioner of Education at that time, was the person who really started that work; I suppose that he stimulated President Hadley to do it, and he asked that those findings be printed by the Education Department. They were printed in Bulletin No. 1 of 1909. It is really a very valuable piece of work. I studied it last evening, although I had been fairly familiar with it. It gives a brief history of the establishment of the various departments here, such as the museums, the laboratories, and these special research centers. I think it is conceded that Washington now is the greatest scientific center in the world with reference to facilities for study.

He goes into that and gives a fairly good statement of it, and then he discusses in detail the administrative side as against the education side of this work. For instance, there is a feeling that the man in charge of a department might be interfered with if he had students and that he could not very well be both a research director and a teacher of students. Of course, that would be true if we had a lot of undergraduates here, but the men who would come here would be matured, and instead of interfering with the head they certainly would be of great service to the head. That feature is brought out, and then the possibility of conducting training classes in the departments is also entered into. The opportunities for individual research is another feature of his report, he going into that in detail. There is also a very thorough discussion of the obstacles that would be met. One obstacle would be lack of space, for example, and another obstacle would be the administrative difficulty, and still another the educational difficulty that was mentioned a while ago. The first part of it is a discussion of these topics under the subheads that I have mentioned, and then the second part consists of the letters received by the Secretary of the Interior from the various departments of the Government here setting forth what is in the departments that might be utilized for study.

Mr. POWERS. That would be important.

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Mr. FESS. Yes; it is very valuable. There are 43 pages of that. It was worked out as follows: A letter was sent out by the Secretary of the Interior to various heads of bureaus, as well as heads of departments, and these letters from the departments in reply received by the Secretary have been printed in the bulletin, but, as you know, it will be difficult to find many of those bulletins now. Therefore, I wondered whether, in connection with our work here, it would not be possible to incorporate that bulletin in our hearings.

Mr. TOWNER. Certainly it would. I should think that would be the way to get at it in order to make it available.

The CHAIRMAN. Of course, we do not want to make our record cumbersome, but it appears to me that is very important indeed. If there is no objection, that report will be printed in the record.

Mr. FESS. I wonder whether, in connection with that, it would be a good thing for the record to give a detailed statement of the various scientific societies that are domiciled in Washington. I refer to independent associations for the advancement of knowledge. I think a statement of that kind ought to go in the record with a statement of the facilities for study.

Mr. POWERS. You mean a statement of these various——

Mr. FESS (interposing). Independent association centers.

The CHAIRMAN. Without objection, such a statement will be incorporated in the record.

Mr. FESS. Then, Mr. Chairman, I offer the following statement of the facilities for study and research in the offices of the Federal Government prepared by Dr. Arthur Twining Hadley in 1908:

FACILITIES FOR STUDY AND RESEARCH IN THE OFFICES OF THE UNITED STATES GOVERNMENT AT WASHINGTON, BY ARTHUR T. HADLEY.

BRIEF HISTORY.

From the very beginning the United States Government has been called upon to provide facilities for advanced study and scientific research, and has shown itself active in meeting these demands.

In the year 1800, when the seat of government was established at Washington, provision was at once made for establishing a library of Congress, under the direct control of the United States authorities, which should be the best institution of its kind in the Western Hemisphere. In spite of two fires—one in 1814 and the other in 1851—by which the collections of books were destroyed or greatly impaired, these intentions have been consistently realized. The Library of Congress is not only the largest collection of books in the country; it is, of all the large libraries in the world, the one whose collections are made most readily available for the scientific investigator of every grade. More than once in the history of the institution the question has arisen whether the Library of Congress should be treated as a circulating library for the casual reader or as a reference library for the serious student, and the answer has been in favor of the latter principle.

Simultaneously with the establishment of the Library at the beginning of the last century there was a recognition of the scientific importance of the census, of the probable necessity of Government in-

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vestigations in American ethnology, and of the need for the establishment of an adequate coast survey. In the year 1800 the American Philosophical Society, under the presidency of Thomas Jefferson, presented a memorial to Congress stating that "the decennial census offered an occasion of great value for ascertaining sundry facts highly important to society and not otherwise to be obtained," and praying that this object might be held in view in taking the next census. A similar memorial was presented by the Connecticut Academy of Arts and Sciences during the same year. Six years later the project of a coast survey was taken up by Secretary Gallatin and received the sanction of law in 1807.

The results of these early endeavors were not wholly satisfactory. The war with Great Britain and the political and material developments which followed it turned men's minds in other directions. Though the census schedules were somewhat enlarged, the methods employed were faulty and the results obtained were of little value until after 1830. The work of the Coast Survey during these years, in spite of the ability of its superintendent, Mr. Hassler, was scarcely more effective. But about 1840 there was a revival of scientific interest and scientific activity on the part of the Government which led to the accomplishment of large results. The census of 1840 showed a distinct improvement over its predecessors, and that of 1850 was a work of great positive value. The Coast Survey was reorganized in 1843 under the headship of Prof. Bache, and its work was pushed with vigor and success. The Naval Observatory, established in 1842 under the title of "A Depot of Charts and Instruments for the Navy," gradually developed into a scientific institution of the first rank. The establishment of the Smithsonian Institution in 1846, by which the leading members of the United States Government became responsible for the administration of a large trust for the increase and diffusion of knowledge, marked another step in the direction of public encouragement of research.

After the year 1850 scientific interests at Washington were again somewhat crowded out by political ones. The good work of the institutions just described was continued, but few new ones were established (if we except the Weather Bureau, the Hydrographic Office, and certain specific surveys of importance) until after the close of the reconstruction period.

The organization of the United States Geological Survey in 1879 can perhaps be taken as marking the beginning of a new era. This era, which has continued to the present time, has been characterized by the gradual development and coordination of technical bureaus and technical researches in a large number of different lines—biological, chemical, and industrial. Starting usually on a small scale, as auxiliaries of the operations of some department of the Government, these bureaus have acquired independent importance, and have been so organized as to facilitate their development as separate institutions instead of subordinating it to the administrative needs of the department in which they originated. The investigations dealing with biology and chemistry, wherever they may have originated, have tended to go into the charge of the Department of Agriculture. The investigations in industrial and statistical science, wherever they have originated, have similarly gravitated toward the Department of Commerce and Labor. Under the Department of Agriculture we

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now find the Weather Bureau, the Bureau of Animal Industry, the Bureau of Plant Industry, the Forest Service, the Bureau of Chemistry, the Bureau of Soils, the Bureau of Entomology, the Bureau of Biological Survey, the Office of Experiment Stations, and the Office of Public Roads. Under the Department of Commerce and Labor we find the Bureau of Corporations, the Bureau of Manufactures, the Bureau of Labor, the Bureau of the Census, the Coast and Geodetic Survey, the Bureau of Fisheries, the Bureau of Standards, and the Bureau of Statistics.

ADMINISTRATION VERSUS EDUCATION.

Of the extent and value of the researches made by these various offices and bureaus there can be no doubt whatever. The scientific results are admirably alike in quantity, quality, and range of subjects. Of the investigations which have given American science its credit and its standing in other countries, a surprisingly large proportion have been conducted in Government departments. But it has been felt in many quarters that these bureaus were not administered in such a way as to have the maximum educational value. The work has not been done by students but by officials. The very fact that its scientific and administrative usefulness is so great has emphasized its lack of direct connection with the educational system of the country. It has been felt that if a larger number of students were trained in the Government offices at Washington, this would form a natural development and culmination of our whole system of public instruction.

Under these influences the Fifty-second Congress, in the year 1892, passed the following joint resolution "to encourage the establishment and endowment of institutions of learning at the National Capital by defining the policy of the Government with reference to the use of its literary and scientific collections by students":

Whereas large collections illustrative of the various arts and sciences and facilitating literary and scientific research have been accumulated by the action of Congress through a series of years at the National Capital; and

Whereas it was the original purpose of the Government thereby to promote research and the diffusion of knowledge, and is now the settled policy and present practice of those charged with the care of these collections specially to encourage students who devote their time to the investigation and study of any branch of knowledge by allowing to them all proper use thereof; and

Whereas it is represented that the enumeration of these facilities and the formal statement of this policy will encourage the establishment and endowment of institutions of learning at the seat of government, and promote the work of education by attracting students to avail themselves of the advantages aforesaid under the direction of competent instructors: Therefore,

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the facilities for research and illustration in the following and any other governmental collections now existing or hereafter to be established in the city of Washington for the promotion of knowledge shall be accessible, under such rules and restrictions as the officers in charge of each collection may prescribe, subject to such authority as is now or may hereafter be permitted by law, to the scientific investigators and students of any institution of higher education now incorporated or hereafter to be incorporated under the laws of Congress or of the District of Columbia, to wit:

1. Of the Library of Congress.
2. Of the National Museum.
3. Of the Patent Office.
4. Of the Bureau of Education.

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5. Of the Bureau of Ethnology.
6. Of the Army Medical Museum.
7. Of the Department of Agriculture.
8. Of the Fish Commission.
9. Of the Botanic Gardens.
10. Of the Coast and Geodetic Survey.
11. Of the Geological Survey.
12. Of the Naval Observatory.

Approved, April 12, 1892.

Nine years later this was supplemented by a further resolution, approved March 3, 1901:

That facilities for study and research in the Government departments, the Library of Congress, the National Museum, the Zoological Park, the Bureau of Ethnology, the Fish Commission, the Botanic Gardens, and similar institutions hereafter established shall be afforded to scientific investigators and to duly qualified individuals, students, and graduates of institutions of learning in the several States and Territories, as well as in the District of Columbia, under such rules and restrictions as the heads of the departments and bureaus mentioned may prescribe.

The first of these acts was avowedly an attempt to encourage the incorporation of educational institutions in the District of Columbia. The second was an attempt to extend privileges to individual students without reference to their connection with any organized educational body.

It can not be said that either of these acts has produced results commensurate with the expectations. The George Washington University has, indeed, numbered among its members many students who were supporting themselves by work in the departments. But with the exception of certain students of medicine who have obtained valuable scientific privileges in the Government hospitals, this connection has been a means of self-support for the student rather than of scientific training. The George Washington Memorial Association, founded in 1901, made it one of its main objects to direct the work of students pursuing their researches in the various departments. What might have come from this movement if it had been vigorously pursued it is impossible to tell. What actually happened was that the gift of Mr. Carnegie of $10,000,000 for the establishment of the Carnegie Institution, a few months later, turned the thoughts of the promoters of the Washington Memorial Institution into other channels by giving them funds under their own control with which to direct researches, instead of making them dependent upon the close cooperation of the departments at Washington. Under these circumstances the movement, as an organized movement, was abandoned. The student who comes to Washington to-day to get his scientific training in a Government department comes under his own impulse and at his own risk.

EXISTING FACILITIES FOR STUDY AND RESEARCH.

The existing facilities for study and research divide themselves into three groups:

1. Facilities open to the general public; to wit, libraries and museums.

2. Training schools for class instruction in preparation for specific departments of the Government service.

3. Laboratory facilities and personal instruction available to individual investigators in the various Government offices, whether these investigators be actually in the employ of the Government or not.

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FACILITIES AVAILABLE FOR THE GENERAL PUBLIC.

The Library of Congress on June 30, 1907, contained 1,434,000 printed books and pamphlets, including the books deposited in the Smithsonian Institution and the law library of 122,000 volumes, which, while a division of the Library of Congress, still remains at the Capitol; besides 98,000 maps and charts, 465,000 pieces of music, and 254,000 photographs and prints.

On June 30, 1908, the number of printed books and pamphlets had increased to 1,535,008.

Both in the arrangement of the library and the rules regarding its use, every facility is given to investigators. For reference use the library is absolutely free, without introduction or credential, to any inquirer from any place. The general reader is supposed to carry on his work in the main reading room; but if he is pursuing investigations which imperatively require access to the shelves he receives the necessary permission, and if he is engaged in research involving continuous use of a number of the same books day after day, he is given a table in an alcove. If he desires to dictate to a stenographer he is assigned a separate room for doing so. There is no limit to the number of books which he may draw for reference use.

The arrangement of the catalogues and the organization of the library staff are such as to facilitate to the utmost the work of the independent inquirer of every grade, from the casual reader, who wants a specific piece of information, to the scientific investigator, who wants to find everything that has been printed on a particular topic.

The usefulness of the library as an aid to scientific research is by no means limited to the work done within its own walls. Dr. Putnam, the librarian, has, during the nine years of his administration, developed a system of cooperation between the different libraries of the country which is of inestimable advantage to investigators everywhere. It is now possible for students in any of our large libraries to find out pretty accurately the books that are to be had and the work that can be done in the others. By the system of interlibrary loans the material in the Library of Congress is actually put at the disposal of responsible investigators all over the country. Under this system the Library of Congress will loan certain books to other libraries for the use of investigators engaged in serious research. This means that any scholar or advanced student who is within reach of a responsible local library which can guarantee proper care of the books can obtain, without the expense of going to Washington, the opportunity to study large classes of scientific and literary material which the Library of Congress possesses, and which the local library can not expect to possess. The importance of this system to the scholars of the country can not possibly be overestimated.

Libraries of the separate departments and bureaus of the Government.—There are some 25 of these, probably containing a total of nearly 1,500,000 volumes and pamphlets,[1] the great majority of them, however, duplicates of material existing in the Library of Congress.

[1] A detailed estimate of the number of volumes in these libraries, published by Mr. C. D. Walcott seven years ago, reads as follows:

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Library.	Books.	Pamphlets.	Maps.
Army Medical Museum	135,058	229,546	.....
Department of Agriculture	58,000	.....	.....
Bureau of Education	81,872	140,004	.....
Patent Office	74,140	.....	.....
Department of State	63,000	2,500	.....
Geological Survey	47,600	77,027	29,185
National Museum	25,000	80,000	.....
Coast and Geodetic Survey	16,405	6,178	25,000
Weather Bureau	18,000	5,000	.....
Museum of Hygiene	11,969	.....	.....
Hydrographic Office	3,000	.....	.....
Bureau of Ethnology	12,000	4,000	.....
Bureau of Statistics	6,000	5,000	.....
Department of Justice	30,000	.....	.....
Department of Labor	7,051	4,454	.....
Corcoran Gallery of Art	2,500	.....	.....
Treasury Department	22,000	3,000	.....
War Department	49,000	2,000	.....
Navy Department	33,635	.....	.....
Interior Department	15,000	.....	.....
Post Office Department	12,000	.....	.....
Light-House Board	5,000	.....	.....
War Records Office	2,000	.....	.....
Naval Observatory	20,000	4,000	.....
Nautical Almanac Office	2,200	2,500	.....
Total	762,430	515,209	54,185

By far the most important of these libraries, in public use as well as in number of books, is that of the Surgeon General's office. This library deals with all branches of medicine, surgery, and the allied sciences. It provides a reading room for the general public and special facilities for competent investigators who desire to make scientific researches. Great use is made by the medical profession of the country, and even by investigators from other countries, of the facilities here offered. The libraries of the State Department also contain unique material—more valuable to the special investigator than to the general student, who will, as a rule, find his needs better met in the Library of Congress. The various military and naval records in the libraries of the departments at Washington also possess an importance to the student of history which is wholly disproportionate to their bulk. But, on the whole, it may be said that most of the departmental libraries are arranged, and should be arranged, with primary reference to the needs of the administrative force of the several departments, and that the work of the outside investigator can be better cared for in the Library of Congress, which is arranged with a view to his needs and purposes, than in any departmental library, however complete.

This is not intended as a criticism on the administration of departmental libraries. They are, as a rule, handled generously as well as efficiently. There is an evident desire on the part of those in charge to have the books used by persons outside of the department as well as inside. But most of the Government bureaus receive large numbers of books and pamphlets which they find it hard to take care of, and harder still to arrange to utilize.

The Bureau of Education has been a special sufferer under this difficulty, and has taken practical and efficient measures to remedy it. In his statement to the Secretary of the Interior for the year ending June 30, 1908, the Commissioner of Education says:

> Under the direction of the new chief of the library division, Mr. William Dawson Johnston, the library of the bureau has been thoroughly overhauled and reorganized.

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The first task here was to strip the collection down to its most effective working basis by the removal of all books and other matter no longer needed or suitable for the purposes of such a special library. The pieces so removed were transferred to the Library of Congress and the District library, under the provisions of the legislative, executive, and judicial appropriations act of February 25, 1903. The following statement shows the number of pieces so transferred:

Bound volumes	26,861
Pamphlets	15,512
Periodical numbers	16,241
Total number of pieces	58,604

This constitutes, as I am informed, one of the largest transfers in the history of American libraries. It was made with a view solely to the increase of the working value of the library of the bureau, and that end has clearly been attained.

Museums.—The most important of these are the National Museum and National Gallery of Arts, under the control of the Smithsonian Institution. The sciences most fully illustrated in the National Museum are zoology, botany, and geology, including palæontology, and the ethnology and archæology of North America.

The technical subjects best represented are firearms, land and water transportation, methods of lighting, time-taking devices, measuring apparatus, electrical appliances, ceramics, and glass making and decoration. The collections are much used for serious study, and would be used still more if it were not for the limitations of space. Apart from the general enjoyment of the exhibits by the public, it seems probable that at least 200 investigators have availed themselves of the special facilities for study during the fiscal year 1908. In the laboratories and working rooms of the museum, however, there is practically no opportunity for outside students, owing to the limitations of space.

Like the Congressional Library, the National Museum will sometimes send material away from Washington to be studied, in cases where it is impossible for the investigator to come to the museum. The regulations regarding investigators are as simple as possible. Little is required other than an assurance of good character and scientific ability. As a rule, a brief indorsement from a scientific man of reputation or from the head of an institution with which the applicant is connected is all that is needed.

The Smithsonian Institution also has valuable material for the student in connnction with its Bureau of Ethnology and its Zoological Park. The National Botanic Garden is independent of the Smithsonian Institution, but affords opportunities for study on closely allied lines.

Hardly second in importance and reputation to the collections of the Smithsonian Institution are those of the Army Medical Museum. Among the departmental collections special mention should also be made of the museum in the Agricultural Department, and of the models and drawings of the Patent Office.

ARRANGEMENTS FOR THE TRAINING OF CLASSES.

The most important training schools conducted by the Government at Washington are the medical schools of the United States Army and Navy. These are organizations for the benefit of graduates of medical schools who need preparation for the special problems which will meet them in the service of the United States Govern-

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ment. The course is in every case a brief one; beyond the fact that it is well conducted, the detailed work requires little comment. Of a similar character, but perhaps even more distinctive, have been the classes organized by the Public Health and Marine-Hospital Service for the students who desire to prepare themselves for the special problems confronting that branch of the Government.

The facilities of the Government Hospital for the Insane are well utilized in connection with the instruction of medical students in George Washington University, and an effort has been made to render the collections of the Botanic Garden similarly useful to classes of college students.

Perhaps the most interesting class instruction in connection with any of the departments at Washington is that furnished by the Bureau of Standards. The assistants in this bureau receive from their chiefs regular instruction in the theoretical problems of physics connected with their work. The reports regarding the results of such instruction are extremely favorable. These classes and conferences enable the force of the department to do better practical work than it could without such training. Their results not only enable the assistants to qualify themselves for promotion within the department faster than they could otherwise, but they increase the demand for their services outside of the department in the manufacturing and mechanical industries of the country when they have reached the limit of the possibilities of their promotion at Washington.

OPPORTUNITIES FOR INDIVIDUAL RESEARCH.

The students who desire to avail themselves of these opportunities fall into two pretty distinct groups.

1. Investigators of mature age and independent resources, who have definite problems to solve for which the departments in Washington furnish more suitable or more accessible material than is to be found elsewhere.

2. Students not yet wholly established in their profession, who desire not only material for study, but also a certain amount of guidance and help from their superiors, and who wish to use their studies as a means of winning position for themselves as well as knowledge for the world.

As things stand at present the first of these classes can be well accommodated at Washington. The number of investigators who can take care of themselves and who have definite ends in views is small. It is such a pleasure to the head of a department to see a scientific man who can direct his own work and who has a definite end in view that he is always willing to make room for him in a laboratory, no matter how crowded it is.

With representatives of the second class the case is different. They can not as a rule take care of themselves. They want suggestions concerning the ends to be pursued, no less than concerning the means to be employed. They are men who need education instead of simply needing opportunity. It is this class which most people have in mind—a class of students who desire to obtain their technical and their advanced scientific training in immediate connection with some of the departments of Government work. With regard to the development of these facilities it must be confessed that the results are disappointing.

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In the year 1901 an unofficial inquiry was instituted by Mr. Walcott, at that time Director of the Geological Survey, concerning the possible number of students on different subjects who could be accommodated in the various departments and bureaus at Washington. The results were as follows:

	Students.
1. History and diplomacy	5
2. Historical research	10
3. Library administration and methods	15
4. Statistics	5
5. Magnetism	2
6. Meteorology	15
7. Tides	2
8. National Standards (Bureau of)	
9. Astronomy	8
10. Physics	3
11. Hydrography	10
12. Cartography, etc	5
13. Topography	20
14. Chemistry	10
15. Mineral resources	5
16. Geology	17
17. Paleontology	7
18. Animal Industry	25
19. Anthropology and Ethnology	13
20. Zoology	60
21. Botany	25
22. Forestry	20
	272

A similar inquiry to-day would scarcely meet so favorable a response. It is doubtful whether the different officials would be willing to accommodate more than one-third of the number contemplated as possible in 1901. Some of the offices which had hoped to accommodate students are prevented by lack of room. Others have already tried student assistance and found it unsatisfactory. Several of the offices which contributed the largest numbers to the above table now say explicitly that they have no accommodations. This is true of the Weather Bureau, of the Hydrographic Office, of the Geological Survey, of the Bureau of Animal Industry, and of the Forest Service. The only offices which express any appreciable readiness to provide for student assistants are as follows:

Public Health Service	Five or six.
Military War Records	Fifteen.
Naval Observatory	A few.
Naval War Records	A limited number.
Patent Office	In library.
Bureau of Education	Six or eight.
Hospital for Insane	Some.
Bureau of Plant Industry	A few.
Bureau of Chemistry	If they come as officials.
Bureau of Entomology	A limited number.
Office of Public Roads	Eight.
Office of Experiment Stations	One.
Bureau of Manufactures	For very brief periods.
Census Bureau	Perhaps.
Coast Survey	About six.
Bureau of Fisheries	Twelve.
Bureau of Standards	A considerable number.
Bureau of Statistics	Some.
Astrophysical Observatory	Some.

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These numbers are vague; but after making due allowance for all uncertainties, it would seem difficult to make them add up to 100.

But whether we estimate the number of places now open to students a little higher or a little lower, it is perfectly clear that we have not moved in the direction of making Washington a place for student training and student research. A few years ago there were 8 or 10 bureaus which had a system of student assistance. Now there are but one or two. The educational work initiated a few years ago with so much hope for the future is on the whole tending to diminish rather than to increase. Department officials who at the outset were sanguine concerning the possibilities in this direction to-day show themselves exceedingly skeptical.

OBSTACLES TO STUDENT RESEARCH.

What are the obstacles or difficulties which have prevented the development of so attractive a plan?

They may be grouped under three heads: The space difficulty, the administrative difficulty, and the educational difficulty.

1. The space difficulty. A great many of the departments are so crowded that they have no room for students. The presence of an untrained man would crowd the trained man out of the necessary desk room. This is notably true of the Geological Survey. In its field parties the United States Geological Survey has been an educational institution of vast importance. A large number of the younger geologists of the present day have derived their inspiration and their scientific development from this source. But what Van Hise could do in the field Walcott could not do at Washington, for the mere physical reason that there was no place to do it in. The offices of the bureau were and are still inadequate for the work expected of it.

This difficulty is likely to continue. There is a tendency on the part of every large Government undertaking to outgrow its quarters. Give it more room, and it will undertake more objects. This sort of vitality is the very best thing to have in a Government bureau, but it makes it harder for the officials in charge to find room for students.

2. The administrative difficulty. Even in those bureaus whose work has not passed beyond the capacity of the rooms accorded to them, as is the case with many of the newer bureaus in the Department of Agriculture, there is another allied difficulty which meets us, lack of funds. The problem for every chief is to get his work done in the most efficient and economical manner. Even where Congress is liberal in its appropriations—and for many of these bureaus the treatment has been as liberal as could be expected—the bureau chief has to study ways and means pretty carefully. He wants to do all the administrative work he can with the money placed at his disposal.

The presence of students interferes with the chance of obtaining this maximum of efficiency. The labor of student assistants is as a rule neither very efficient nor very easy to handle. An untrained man employed at $500 rarely does half as much work for his chief as the trained man at $1,000. The work of supervising two $500 men takes a great deal more of the time and strength of the higher officials than the work of supervising a single $1,000 man. Of course there

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may be indirect results which justify this expenditure of money and time. If a bureau finds that there are not enough men who are technically trained for the work which it has undertaken, it must train them itself. The expenditure of money and time involved in their training is a necessary means to an end. But where the educational object is an independent one—where it is not undertaken as a necessary preliminary to getting the work done, but as a means of outside public service in connection with the work that is already progressing—then it represents a costly diversion of time, strength, and money.

Of course there are exceptions to this general rule. The Bureau of Standards is a marked instance in point. The development of the researches in this bureau must necessarily go hand in hand with the development of the men who make the researches. Hence the educational side of this bureau is much more fully developed and much more successful than that of most others. In the majority of cases the educational work is no integral part of the administrative work. If one side must be sacrificed, it is the educational side. This is necessary and right. The main work of our offices is and must be administrative. A bureau chief who should neglect his main work for the sake of a subsidiary or incidental one would be forfeiting his trust.

If, under these circumstances, Congress wishes the bureaus to undertake educational work on a large scale, it ought to make a specific appropriation for the purpose. But it does not seem likely that this policy will be adopted. A great many people who are in favor of using Government bureaus as a means of education, if it can be done at little loss or expense, would view the policy in a wholly different light if it was shown that it cost as much money to do it there as anywhere else.

3. The educational difficulty. Even if we had room enough and appropriations enough, it is doubtful whether the Government bureaus, regarded from the purely educational standpoint, furnish as advantageous a training as many people suppose.

This is a subject on which it is difficult to generalize. Certain bureaus are first-rate training places for some men. The student who has chosen his line of life and has had his preliminary theoretical training can often spend his last year of study with great advantage in immediate connection with the chiefs under whom he is going to serve; and if his promotion depends upon his success in doing the work they want, it will furnish a stimulus to him and a help to them. But where these conditions are absent—where the man's promotion does not depend upon the chief under whom he is studying, where his studies are not being turned to a particular form of Government service, or where he is deficient in the necessary theoretical training—the case is reversed. By all means let the Government offices accommodate as many special students as their facilities and appropriations will admit; but let these students get their theoretical training elsewhere if we wish to secure the maximum efficiency and economy from the educational standpoint as well as from the administrative one.

The fact is that to nine men out of ten a good school is a better training place in the theory of a man's profession than any ordinary office or bureau.

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We have passed beyond the stage of the student assistant. At the beginning of the nineteenth century any man who wanted technical training tended to seek it in the office where technical work was done. The man who intended to be a lawyer went into a law office; the man who intended to be a doctor went into a doctor's office; the man who intended to be a minister went into a minister's study; the man who intended to be an engineer carried chain for an engineer. There are still people who think that this is the only way in which a man can really be educated; but they are getting fewer amd fewer every day. Practical experience is against them. The man who goes to a good law school, if he uses his time properly, can learn more law in three years under the new system than he learned under the old system in twice that time. The same thing is true of medicine, of engineering, or any of the different branches of technology. A teacher who makes it his business to educate can do this side of the work more effectively than a practitioner with whom the training of his assistants is and can be only an incidental matter. It is simply an instance of the advantages of division of labor. It is better to have a trained teacher do the teaching in places arranged for teaching, and a trained administrator do the business in the places arranged for business, than to try to mix the two things up. While this is not an absolutely universal rule, it holds true in the vast majority of cases.

For seven years, from 1899 to 1906, the Forest Service of the United States provided for a system of student assistance. Two years ago this system was abandoned. Why? Nominally because the problems which confronted the service had grown too complex to leave room for any untrained men in Government forestry; actually because the forest schools of the country had trained enough men who were capable of handling complex problems to allow the Forest Service advantageously to specialize upon this, its proper work, and leave the educational work to the schools. The course of events here is typical of what has happened to almost every large line of business in the course of the last hundred years. There has been a tendency to separate the educational from the administrative side, because both sides could be better attended to if they were kept apart. When the Forest Service, after seven years' trial, abandoned the experiment of student assistance, it simply repeated the history through which hundreds of other kinds of offices, public and private, have been passing during the nineteenth century.

The question is often asked how far the establishment of a national university, which could take care of the preliminary theoretical training of the students and relieve the department officials of much of the purely educational work, might alter or modify these conclusions.

The question concerning the advantages of a national university is too large a one to be here discussed in its entirety, and really forms no part of the subject of this report. We are concerned with what can be done at Washington under the existing system rather than with what might be done under some other system. It may be said provisionally that the presence of the scientific bureaus of the Government would be of great advantage to a university, but that it is very doubtful whether the presence of a university would be of advantage to the scientific bureaus of the Government. The university could gain not only by having large libraries and museums within easy reach, but by being able to call for advice and help upon

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the scientific investigators engaged in governmental work. But it does not appear that these investigators, now employed in Government service, could expect a corresponding benefit to themselves or their departments from the establishment of a university. Some of them who have the teaching instinct would value highly the opportunity for the instruction of university classes, and could exercise a large influence in this matter. But it is only a minority of the bureau chiefs who could do effective work in this way. The qualities which make a successful administrator are not always, or perhaps generally, those of a successful educator. And even with those men who were really fitted to contribute to the success of the university the work they might do in that way would represent in large measure a subtraction from the time and strength which they now devote to the organization of the researches immediately under their charge. While the establishment of a university at Washington would make it a little easier for the departments to meet the needs of students than it now is, it would tend to create an increased pressure upon the departments to accommodate students who had not had the necessary degree of preliminary training, or acquired the necessary definiteness of purpose, to make them contribute to the efficiency of the staff. From the standpoint of the departments, the advantage in one direction would generally be outweighed by the disadvantage in the other.

CONCLUSIONS.

The conclusions of this report may be summed up as follows:

There is an increasing opportunity for the work of advanced study and research at Washington; but this work, under present conditions, is and must be done by officials rather than by students.

The various libraries, collections, and offices of the Government are thrown open with the utmost liberality to investigators of every kind. But we have nothing which can be regarded as a system of training for advanced students in the various departments of scientific work, except a relatively small number who are qualifying themselves for promotion in the Government service itself. The efforts made a few years ago to develop a system of training schools within the departments of the Government itself have not been crowned with success. Some are hindered by want of space, others by the demands of administrative economy, and others yet by the fact that there are so many instances where education and business are both better done if the schools do the educating and the offices the business.

APPENDIX.

In order to collect the material necessary for the preparation of this report, the Department of the Interior made inquiry in the month of May, 1908, of the bureaus and institutions mentioned in the acts of 1892 and 1901, and of certain others which had been more recently established, concerning the facilities which they furnished for advanced study and research. The questions asked were as follows:

1. Date of establishment of this office in its present status.

[Information concerning work of a similar kind under Government auspices, prior to the establishment of this office in its present status, may be briefly noted, or reference made to publications in which such information is presented most concisely and satisfactorily.]

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2. Facilities offered for advanced study and research prior to the year 1908.

[A brief narrative and descriptive statement is desired, such as may be incorporated verbatim in the proposed bulletin. If more convenient, reference may be made to publications in which such information is already accessible; or, is such information is not at hand and can not be collected without undue expenditure of time, answer may be omitted altogether.]

3. A more detailed account of such facilities offered during the fiscal year 1908.

[Statements are desired with reference to (*a*) library facilities, (*b*) laboratory facilities, (*c*) direction and supervision of students, (*d*) special opportunities for study and training afforded to members of the office force, (*e*) provision for the appointment of student assistants for either part-time or whole-time employment, and (*f*) additional information.]

4. Number of persons availing themselves of such facilities during the fiscal year 1908.

[Including, if practicable, a list of names and addresses, together with some indication of the previous training of each person and of the work done by him here. If preferred, the answer may take the form of a statement of the number and character or class of such persons and the type of inquiry in which they are engaged.]

5. Facilities offered for the fiscal year 1909.

[Statement in such form as may be incorporated verbatim in the proposed bulletin. Facilities not now afforded but which may be made available to students in the near future might well be mentioned. Where the facilities referred to depend upon an estimated increase in the appropriation for the year, concerning which the action of Congress is still uncertain, this fact should be noted. Answer may be limited to a reference to information given under 3 where this is deemed a sufficient announcement for the coming year.]

6. Regulations and suggestions concerning the conditions of admission to the use of such facilities.

[It would be serviceable to know whether admission to the use of the facilities is limited to any particular type of inquirer; whether, for instance, solely to those pursuing original investigation calculated to advance the boundaries of knowledge, or, in addition, to students doing graduate work in connection with some higher institution, or to all students. Some indication of the number of students who can be accommodated should be included. The conditions governing appointment to student assistantships or analogous positions should be noted.]

7. Additional information and remarks.

These inquiries were transmitted by the Secretary of the Interior to the various departments of the Government, accompanied by a letter similar in form to the following. In the case of those offices not included in any Government department, the accompanying letter was modified to adapt it to the circumstances of the case:

DEPARTMENT OF THE INTERIOR,
Washington, May 12, 1908.

The honorable the SECRETARY OF STATE.

SIR: Inquiries are made from time to time at the Bureau of Education with reference to the facilities now offered for advanced study and research in the Government offices at Washington, under the provisions of the joint resolution of Congress approved April 12, 1892, and the act of Congress approved March 3, 1901. With a view to answering such inquiries and with a view, also, to furnishing comprehensive information with reference to this matter for the use of the graduate schools of our universities, the Commissioner of Education is desirous of issuing a special bulletin dealing with the subject, and has secured the service of President Ira Remsen, of the Johns Hopkins University, in the capacity of editor of such bulletin.[1]

You will readily understand that what is contemplated is not the preparation of an official report concerning operations under the acts referred to, which the Bureau of Education is neither directed nor empowered to make, but merely the assembling of such information as will meet the needs of instructors and students throughout the country. Such a publication as will serve this purpose can be prepared only with the cooperation of the heads of the several Government offices concerned. I have received assurances that such cooperation will be freely extended. I trust that you will find it proper and possible to assist in this undertaking by furnishing such information as is indicated on the inquiry blank inclosed herewith with reference to the following offices of the Department of State: The Bureau of Indexes and Archives and the Bureau of Rolls and Library.

This form of inquiry has been prepared in consultation with President Remsen, with a view to bringing together the information from the several offices in something

[1] A few weeks later President Remsen was obliged by the pressure of immediate and unusual duties to withdraw from this engagement.

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approaching uniformity of arrangement and presentation. It is not unlikely, however, that in some offices certain variations from this plan will be found necessary to a fair presentation of essential facts concerning those offices. I inclose a copy of this letter for the information of each of the offices referred to.

For convenience of reference there has been added to the circular of inquiry the text of the congressional enactments to which reference has been made, and a provisional list of the Government offices to which this inquiry is to be sent is inclosed herewith.

If convenient, will you kindly furnish this office with the information asked for before the end of this current month?

I have the honor to be, very respectfully,

(Signed) JAMES RUDOLPH GARFIELD, *Secretary*.

The complete list of offices to which the inquiry was sent is as follows:

Library of Congress.
Department of State:
- Bureau of Indexes and Archives.
- Bureau of Rolls and Library.

Treasury Department: Public Health and Marine-Hospital Service.
Department of Justice: Library.
War Department:
- Library of the Surgeon General's Office.
- Museum of the Surgeon General's Office.
- Bureau of Insular Affairs.
- Office of the Chief of Staff.

Navy Department:
- Hydrographic Office.
- Naval Observatory.
- Naval Medical School and Hospital.
- Naval War Records Office and Library.

Department of the Interior:
- General Land Office.
- Patent Office.
- Bureau of Education.
- Geological Survey.
- Reclamation Service.
- Government Hospital for the Insane.

Department of Agriculture:
- Weather Bureau.
- Bureau of Animal Industry.
- Bureau of Plant Industry.
- Forest Service.

Department of Agriculture—Continued.
- Bureau of Chemistry.
- Bureau of Soils.
- Bureau of Entomology.
- Bureau of Biological Survey.
- Office of Experiment Stations.
- Office of Public Roads.
- Library.

Department of Commerce and Labor:
- Bureau of Corporations.
- Bureau of Manufactures.
- Bureau of Labor.
- Bureau of the Census.
- Coast and Geodetic Survey.
- Bureau of Fisheries.
- Bureau of Standards.
- Bureau of Statistics.

Interstate Commerce Commission.
International Bureau of American Republics.
Isthmian Canal Commission.
National Botanic Garden.
Smithsonian Institution:
- National Museum and National Gallery of Art.
- Bureau of American Ethnology.
- National Zoological Park.
- Astrophysical Observatory.
- Bureau for the International Catalogue of Scientific Literature.
- International Exchange Service.

It was requested that the information be furnished in such a form that it might be quoted if the Bureau of Education should find it desirable to do so. The majority of the answers were framed with such care that the bureau believes it advantageous to publish them nearly in full. Exception has been made in case of the reports of a few of the departments which, owing to their limited means or to the confidential character of the work intrusted to their charge, are unable to afford much assistance to the general student. The replies of other departments have been abridged by the omission of catalogues of literature collected or published, whose inclusion would have swelled this report beyond its natural limits.

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Replies Made by the Various Departments and Offices to the Inquiries of the Secretary of the Interior.

LIBRARY OF CONGRESS.

(Officer reporting: Herbert Putnam, Librarian.)

1. 1897. This date is that of the completion of the new Library Building, which marks the beginning of the opportunity and service of the Library as the National Library of the United States.

While still at the Capitol, however (that is, from 1800 to 1897), the Library was free for reference to all inquirers, and within its abilities rendered valuable service as a general research library, as well as one for governmental use.

2. The resources and facilities are indicated passim in the annual reports of the Librarian 1897–1907. See especially the Manual attached to that for 1901.

3. The Library is still the Library of Congress, and as such has a special duty to Congress. It is also (1) the law library of the Supreme Court of the United States, and (2) the central library for all the executive departments and bureaus at Washington.

Subject to the convenience of the Government, it is a free reference library for the general public. As such its interest is particularly to aid research calculated to advance the boundaries of knowledge. All of its collections are available to this end, and they comprise now (in round numbers) 1,500,000 books and pamphlets, 100,000 maps and charts, 470,000 volumes and pieces of music, 250,000 prints, and a great collection of manuscripts indispensable to the student of American history. It receives by operation of law all books copyrighted in the United States, and by exchange the official publications of all governments and most learned societies and institutions. Its expenditures for purchase now total $108,000 a year. In its selection for purchase it will gladly give preference to material desired by investigators for immediate use. It receives currently nearly 7,000 serials, including about 1,200 newspapers. The resident or visiting investigator can be given a special desk where he may reserve material from day to day, and, if necessary, direct access to material on the shelves. Upon special permit he may withdraw material for home use. The specialists of the Library, of whom there are a number in various fields of knowledge, will gladly give assistance in the bibliography of their subjects.

Investigators not able to visit Washington may secure the loan of material by application through their local libraries.

The main reading room has accommodation for 250 readers, but the building as a whole for a thousand. No credential is required for its reference use, and no formality beyond the minimum requisite for safety.

Special strength of collection.—Manuscripts (for American history), official documents, maps and charts, music, prints, society publications, law, history, and political and social science. Other departments are now being rapidly and systematically developed. (In four are already special collections of importance: Russian, Chinese, Japanese, and Sanskrit literature.)

Note.—Special fields not emphasized because covered by other governmental libraries are medicine, agriculture, geology, and education.

4. We do not keep statistical records to enable us to answer this question, nor does the inquiry seem to demand it. The number of persons using the Library is, as a whole, about the number that would use a large municipal library. The classes of persons may be divided into three: Members of Congress; visiting investigators; resident investigators.

The resident use is obvious. The visiting investigators may be indicated by the following: Historians, mostly professors in American universities; economists; scientists, in connection with advanced work of the Government bureaus and for personal work; candidates for doctors' degrees.

5. Same as for 1908.

6. For reference use the Library is absolutely free, without introduction or credential to any inquirer from any place; and it is open from 9 a. m. until 10 p. m., and on Sundays and most holidays from 2 p. m. until 10 p. m.

The general reader is supposed to carry on his work in the main reading room. If, however, he is pursuing investigations requiring access to the books upon the shelves, he will be admitted to the shelves if his work imperatively demands it, and if he can not be served by having the books brought to him. Such access is, of course, subject to the convenience of the administration. If a reader is engaged in research involving the continuous use of a number of the same books day after day, he will be given a table in an alcove, where they may be set aside for him; if he desires to dictate to a stenographer, a separate room, where he may do so without inconvenience or publicity.

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There is no limit to the number of books a reader may draw for reference use. For books from the stacks to be used in the reading room he makes out a call slip, signing his name and residence. But there are available to him without this formality, or the intervention of an attendant, some 15,000 volumes of reference books in this room, 2,700 current newspapers and periodicals in the periodical reading room, and much material in other parts of the Library.

In the very early years (circa 1815), and again from about 1884–1894, the privilege of drawing books for home use was permitted to any resident of the District making a deposit as security. From time to time since then, and especially before the Public Library was in efficient operation in it new building, appeals have been made for the revival of this privilege. A communication from the Librarian to the chairman of the Senate Library Committee, January 27, 1903, was induced by such an appeal, which caused the introduction of a resolution into the Senate. The view held was adverse to the proposal to make the National Library a general circulating library, but emphasized the sympathy of the authorities with every application for the home use of books resting upon a serious need not to be satisfied by reference use nor by the Public Library of the District. A distinction is easy, for the function of the latter is peculiarly to aid the general reader and the younger reader, including the pupils of the common schools. This leaves to the Library of Congress the investigator proper.

The statutory designations of persons (rather classes) within the District who should have the privilege of books for home use are as follows: President, Vice President, ex-Presidents of the United States, Senators, Representatives, Delegates, heads of departments, Chief Justice of the Supreme Court, Associate Justices of the Supreme Court, reporter of the Supreme Court, clerk of the Supreme Court, members of the Diplomatic Corps, judges of the Court of Claims, clerk of the Court of Claims, Solicitor General, Assistant Attorneys General, Secretary of the Senate, Clerk of the House of Representatives, Chaplains of the two Houses of Congress, Solicitor of the Treasury, the financial agent of the Joint Committee on the Library, Smithsonian Institution through its Secretary, Regents of the Smithsonian Institution, members of the Interstate Commerce Commission, secretary of the Interstate Commerce Commission, Chief of Engineers of the Corps of Engineers of the United States Army, Chief Justice of the Court of Appeals of the District of Columbia, associate justices of the Court of Appeals of the District of Columbia, associate justices of the Supreme Court of the District of Columbia, Chief Justice of the Supreme Court of the District of Columbia,

A resident of the District engaged in serious investigation, and having some special need which can not be met by reference use, may apply to the Librarian for a special permit which may meet this need.

The duty of the National Library is to aid the unusual need with the unusual book, not only by supplying a reader on the premises, but by making books available to the research worker even if he is not in Washington. When, therefore, it receives a call for a book in its possession which is not accessible to the applicant elsewhere, and it is a book required by him for serious investigation, and it can at the moment be spared from Washington, it is lent, through another institution.

The principles governing the operation of the interlibrary loans are described in the following memorandum, which was put forth as a circular at the inception of the system:

"Under the system of interlibrary loans the Library of Congress will lend certain books to other libraries for the use of investigators engaged in serious research. The loan will rest on the theory of a special service to scholarship which it is not within the power or the duty of the local library to render. Its purpose is to aid research calculated to advance the boundaries of knowledge, by the loan of unusual books not readily accessible elsewhere.

"The material lent can not include, therefore, books that should be in a local library, or that can be borrowed from a library (such as a State library) having a particular duty to the community from which the application comes; nor books that are inexpensive and can easily be procured; nor books for the general reader, mere text-books, or popular manuals; nor books where the purpose is ordinary student or thesis work, or for mere self-instruction.

"Nor can it include material which is in constant use at Washington, or whose loan would be an inconvenience to Congress, or to the executive departments of the Government, or to reference readers in the Library of Congress.

Genealogies and local histories are not available for loan, nor are newspapers, the latter forming part of a consecutive historical record which the Library of Congress is expected to retain and preserve; and only for very serious research can the privilege be extended to include volumes of periodicals.

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"A library borrowing a book is understood to hold itself responsible for the safe-keeping and return of the book at the expiration of ten days from its receipt. An extension of the period of loan is granted, upon request, whenever feasible.

"All expenses of carriage are to be met by the borrowing library.

"Books will be forwarded by express (charges collect) whenever this conveyance is deemed necessary for their safety. Certain books, however, can be sent by mail, but it will be necessary for the borrowing library to remit in advance a sum sufficient to cover the postal charges, including registry fee.

"The Library of Congress has no fund from which charges of carriage can be prepaid."

A service of the Library distinct from that involved in the actual loan of books is that performed by answer to inquiry through correspondence. The character of the questions which the Library answers most willingly is noted below:

1. As to its possession of a particular book.
2. As to the existing bibliographies on a particular subject.
3. As to the most useful existing authorities on a particular subject and where they may be available.
4. As to the author of a book by a known title.
5. As to the date, price, and probable present cost of a specified book.
6. For the source of a particular quotation, if ascertainable by ready reference.
7. (If not requiring elaborate research.) For other particular facts in history or literature; in the organization or operations of the Federal Government.
8. (Where of moderate extent.) For an extract from a book in its possession.

DEPARTMENT OF STATE: BUREAU OF INDEXES AND ARCHIVES.

(Officer reporting: John R. Buck, chief of bureau.)

1. 1870.

2. The diplomatic archives from 1789 to August, 1906, are contained in about 3,000 volumes and are arranged in the following series:

(1) Instructions. These include all letters from the department to diplomatic representatives of the United States abroad. The series commences with January 23, 1791, although earlier letters, to United States representatives in France, Morocco, Great Britain, Netherlands, and Spain, are contained in the volumes of Foreign Letters in the Bureau of Rolls and Library.

(2) Dispatches.

(3) Notes from the department.

(4) Notes to the department.

For details see Guide to the Archives of the Government of the United States in Washington, by Van Tyne and Leland, second edition, published by the Carnegie Institution, 1907.

3. The volumes of diplomatic papers in the Bureau of Indexes and Archives are listed in an inventory book, in which new volumes are entered when bound. This inventory gives the numbers on the manuscript volumes, showing which volumes are duplicates of others; it also gives the dates of beginning and ending of the volumes, but in many cases, especially in dispatches, these dates are not early enough or late enough, as the case may be. The reason for this discrepancy in dates is usually the fact that the letters written before the minister or agent reached his post, and those written after leaving it, are not included in the dates given. In some cases at the end of a volume are found letters written by a former diplomatic officer many years after the termination of his mission. Besides the list of volumes of Dispatches, Notes to the Department, Instructions, and Notes from the Department, this inventory contains lists of volumes of Circulars, of Consular Instructions and Consular Dispatches, and of volumes pertaining to Consular Clerks, Foreign Consuls in the United States, and Special Agents.

By the help of this inventory volumes can usually be located readily. The system of arrangement of books is comparatively simple, and in almost all the books the manuscripts are bound in chronological order, the most noteworthy exception being that inclosures are bound after the letter in which they were inclosed, though naturally preceding it in date. The records are, on the whole, in excellent condition, though some of the older papers are considerably discolored, or are brittle and breaking at the edges, thus making the reading of them difficult for the investigator. The handwriting of many of the earlier papers is hard to decipher, even when the ink has not faded. Some of the press copies are at present almost illegible.

The arrangement in earlier years is in some ways perplexing, and sometimes important documents are not to be found. It is no unusual thing to find that dispatches of certain numbers are not in the archives, and this in spite of the fact that sometimes

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as high as five copies of one paper were sent by as many different ships. It is interesting to note how many copies of the original number were received, and to compare the dates of sending and of receipt. About 1831 a definite system was adopted. The records since that time are well arranged, and the system is easily understood; the records since 1831 are also more nearly complete, due to a great extent to improvements in navigation, but due also to careful supervision. Duplicates no longer appear, and on the other hand there are no dispatches missing, as is the case in the earlier volumes. Evidently about that time our ministers ceased to send duplicate and triplicate dispatches, while the department made arrangements to get copies of documents that for any reason went astray.

6. See answer to corresponding question under Rolls and Library.

DEPARTMENT OF STATE: BUREAU OF ROLLS AND LIBRARY.

(Officer reporting: William McNeir, chief of bureau.)

1. 1882.

2. The archives of the bureau consist of the Declaration of Independence, laws, treaties, proclamations, executive orders and announcements, the proceedings of international commissions, documents relating to the Constitution, territorial papers, and a large body of miscellaneous material. Within the last few years several of the most valuable collections in the bureau have been removed.

3. The library, which is a branch of this bureau, is rich in historical and biographical works, the law of nations, and travels, and is open to persons interested during office hours. A detailed catalogue is found in the Guide to the Archives of the Government of the United States in Washington, by Van Tyne and Leland, second edition, published by the Carnegie Institution, 1907, pages 33–54.

6. The library is open between the hours of 9 a. m. and 4 p. m. It is for the official use of the department. When not required for that purpose it may be enjoyed by persons attached to the department and to the diplomatic corps in Washington, but by no others without express permission from the Secretary, an Assistant Secretary, or the Chief of the Bureau of Rolls and Library.

The special rules governing its use are as follows:

I. Persons to whom the privilege of consulting the manuscript archives of the Department of State is granted can exercise the permission only subject to the convenience of the department and the uninterrupted transaction of its business.

II. No manuscript shall, at any time, be taken out of the department except by order in writing of the Secretary or an Assistant Secretary.

III. No manuscript shall be taken out of the Bureau of Rolls and Library, into any room of the department, until a receipt in form and descriptive of the paper or volume be signed by the official taking the same and delivered to the chief of the bureau, or, in his absence, to the person in charge.

IV. No manuscript shall be detained from its place on the shelves of the Bureau of Rolls and Library after 4 p. m. of the day it shall have been taken; and no manuscript shall be taken from its place on the shelves by any others than the clerks in charge, except by special arrangement in exceptional circumstances.

V. The use of the indexes in the room in which the old archives are deposited is not permitted except through the clerks in charge.

VI. The privilege of consulting the manuscript archives does not include the use of the library. The latter privilege must be independently asked of the Chief of the Bureau of Rolls and Library.

TREASURY DEPARTMENT: PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

(Officer reporting: W. Wyman, Surgeon General of Public Health and Marine-Hospital Service.)

1. The Hygienic Laboratory of the Public Health and Marine-Hospital Service was established in New York, at the marine hospital on Staten Island, August, 1887. It was transferred to Washington, with quarters in the Butler Building, June 11, 1891, and a new laboratory building, located in Washington, was authorized by act of Congress, March 3, 1901. An extensive addition to this building was authorized by Congress in 1907.

2. Research work of a laboratory character, with special reference to problems affecting the public health, prior to the year 1908, have included advanced studies in bacteriology, serum therapy, pathology, chemistry, medical zoology, and pharmacology. The direction which the advanced studies have taken is indicated from the

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following list of publications, which have appeared as Hygienic Laboratory Bulletins since 1900. Those numbers to which an asterisk is prefixed are out of print.

*No. 1.—Preliminary note on the viability of the *Bacillus pestis*. By M. J. Rosenau.

No. 2.—Formalin disinfection of baggage without apparatus. By M. J. Rosenau.

*No. 3.—Sulphur dioxid as a germicidal agent. By H. D. Geddings.

No. 4.—Viability of the *Bacillus pestis*. By M. J. Rosenau.

No. 5.—An investigation of a pathogenic microbe (*B. typhi murium* Danyz) applied to the destruction of rats. By M. J. Rosenau.

*No. 6.—Disinfection against mosquitoes with formaldehyde and sulphur dioxid. By M. J. Rosenau.

No. 7.—Laboratory technique: Ring test for indol, by S. B. Grubbs and Edward Francis; Collodium sacs, by S. B. Grubbs and Edward Francis; Microphotography with simple apparatus, by H. B. Parker.

By act of Congress approved July 1, 1902, the name of the "United States Marine Hospital Service" was changed to the "Public Health and Marine-Hospital Service of the United States," and three divisions were added to the Hygienic Laboratory.

Since the change of name of the service the bulletins of the Hygienic Laboratory have been continued in the same numerical order, as follows:

*No. 8.—Laboratory course in pathology and bacteriology. By M. J. Rosenau. (Revised edition March, 1904.)

* No. 9.—Presence of tetanus in commercial gelatin. By John F. Anderson.

No. 10.—Report upon the prevalance and geographic distribution of hookworm disease (uncinariasis or anchylostomiasis) in the United States. By Ch. Wardell Stiles.

* No. 11.—An experimental investigation of *Trypanosoma lewisi*. By Edward Francis.

* No. 12.—The bacteriological impurities of vaccine virus; an experimental study. By M. J. Rosenau.

* No. 13.—A statistical study of the intestinal parasites of 500 white male patients at the United States Government Hospital for the Insane; by Philip E. Garrison, Brayton H. Ransom, and Earle C. Stevenson. A parasitic roundworm (*Agamomerims culicis* n. g., n. sp.) in American mosquitoes (*Culex sollicitans*); by Ch. Wardell Stiles. The type species of the cestode genus *Hymenolepis;* by Ch. Wardell Stiles.

No. 14.—Spotted fever (tick fever) of the Rocky Mountains; a new disease. By John F. Anderson.

No. 15.—Inefficiency of ferrous sulphate as an antispetic and germicide. By Allan J. McLaughlin.

* No. 16.—The antiseptic and germicidal properties of glycerin. By M. J. Rosenau.

* No. 17.—Illustrated key to the trematode parasites of man. By Ch. Wardell Stiles.

* No. 18.—An account of the tapeworms of the genus *Hymenolepis* parasitic in man, including reports of several new cases of the dwarf tapeworm (*H. nana*) in the United States. By Brayton H. Ransom.

* No. 19.—A method for inoculating animals with precise amounts. By M. J. Rosenau.

* No. 20.—A zoological investigation into the cause, transmission, and source of Rocky Mountain "spotted fever." By Ch. Wardell Stiles.

No. 21.—The immunity unit for standardizing diphtheira antitoxin (based on Ehrlich's normal serum). Official standard prepared under the act approved July 1, 1902. By M. J. Rosenau.

* No. 22.—Chloride of zinc as a deodorant, antiseptic, and germicide. By T. B. McClintic.

* No. 23.—Changes in the Pharmacopœia of the United States of America. Eighth Decennial Revision. By Reid Hunt and Murray Galt Motter.

No. 24.—The International Code of Zoological Nomenclature as applied to medicine. By Ch. Wardell Stiles.

No. 25.—Illustrated key to the cestode parasites of man. By Ch. Wardell Stiles.

No. 26.—On the stability of the oxidases and their conduct toward various reagents. The conduct of phenolphthalein in the animal organism. A test for saccharin, and a simple method of distinguishing between cumarin and vanilin. The toxicity of ozone and other oxidizing agents to lipase. The influence of chemical constitution on the lipolytic hydrolysis of etheral salts. By J. H. Kastle.

No. 27.—The limitations of formaldehyde gas as a disinfectant with special reference to car sanitation. By Thomas B. McClintic.

No. 28.—A statistical study of the prevalence of intestinal worms in man. By Ch. Wardell Stiles and Philip E. Garrison.

* No. 29.—A study of the cause of sudden death following the injection of horse serum. By M. J. Rosenau and John F. Anderson.

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No. 30.—I. Maternal transmission of immunity to diphtheria toxine. II. Maternal transmission of immunity to diphtheria toxine and hypersusceptibility to horse serum in the same animal. By John F. Anderson.

No. 31.—Variations in the peroxidase activity of the blood in health and disease. By Joseph H. Kastle and Harold L. Amoss.

No. 32.—A stomach lesion in guinea pigs caused by diphtheria toxine and its bearing upon experimental gastric ulcer. By M. J. Rosenau and John F. Anderson.

No. 33.—Studies in experimental alcoholism. By Reid Hunt.

No. 34.—I. *Agamofilaria georgiana* n sp., an apparently new roundworm parasite from the ankle of a negress. II. The zoological characters of the roundworm genus *Filaria* Mueller, 1787. III. Three new American cases of infection of man with horse-hair worms (species Paragordius varius), with summary of all cases reported to date. By Ch. Wardell Stiles.

No. 35.—Report on the origin and prevalence of typhoid fever in the District of Columbia. By M. J. Rosenau, L. L. Lumsden, and Joseph H. Kastle. (Including articles contributed by Ch. Wardell Stiles, Joseph Goldberger, and A. M. Stimson.)

No. 36.—Further studies upon hypersusceptibility and immunity. By M. J. Rosenau and John F. Anderson.

No. 37.—Index-catalogue of medical and veterinary zoology. Subjects: Trematoda and trematode disease. By Ch. Wardell Stiles and Albert Hassall.

No. 38.—The influence of antitoxin upon post-diphtheritic paralysis. By M. J. Rosenau and John F. Anderson.

No. 39.—The antiseptic and germicidal properties of solutions of formaldehyde and their action upon toxines. By John F. Anderson.

No. 40.—Miscellaneous zoological papers. By Ch. Wardell Stiles and Joseph Goldberger.

No. 41.—Milk and its relation to the public health. By various authors.

No. 42.—The thermal death points of pathogenic micro-organisms in milk. By M. J. Rosenau.

No. 43.—The standardization of tetanus antitoxin. Am American unit established under authority of the act of July 1, 1902. By M. J. Rosenau and John F. Anderson.

3. (*a*) The Public Health and Marine-Hospital Bureau and its Hygienic Laboratory have small reference libraries of about 3,000 volumes each.

(*b*) The laboratory is well equipped to carry on experimental work in bacteriology, pathology, chemistry, pharmacology, biology, zoology, and other problems pertaining to the public health.

(*c*) A course of practical instruction in bacteriology, epidemiology, serum therapy, disinfection, quarantine, vital statistics, sanitary analysis, etc., is given to student officers of the service and to health officers.

(*d*) The laboratory force may spend extra hours in research work, and have occasionally been promoted from clerical or routine work into advanced problems.

(*e*) Student assistants are sometimes appointed, who devote their whole time during official hours to the work of the laboratory, but pursue collegiate studies at one of the local institutions before 9 o'clock or after half past 4.

(*f*) The facilities of the Hygienic Laboratory for other persons than those actually engaged in the work are limited, and have been accorded only to health officials upon the request of State and municipal health authorities.

4. During the year 1908 four officers of the service were given the prescribed course outlined above. One health officer was afforded the facilities of the laboratory for special study in typhoid fever.

5. The advantages of the Hygienic Laboratory to health officers are limited by the present congested conditions of the small building. The addition now under construction will relieve the congestion, but will be extensive enough to entertain only a few extra workers.

6. Student officers and others to whom the facilities of the Hygienic Laboratory are offered must comply with the regulations of the Public Health and Marine-Hospital Service. Health officials only are admitted, and these upon the request of State and municipal health authorities. At present the facilities of the laboratory do not permit more than five or six students at one time.

DEPARTMENT OF JUSTICE: LIBRARY.

The library of the Department of Justice is made up chiefly of law treatises, law reports, statutes, and Government publications, and contains but few books of a literary or scientific character. It is a working library for the use of the Department of Justice, and affords no facilities to students for advanced study and research. There is in the library no class of books not found in the Library of Congress.

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WAR DEPARTMENT: LIBRARY OF THE SURGEON-GENERAL'S OFFICE.

(Officer reporting: Walter D. McCaw, major, Medical Corps, United States Army.)

1. The Army Medical Museum and Library of the Surgeon-General's Office was established in its present status in 1887, at which time this building, erected for its reception, was first occupied. Prior to that time the library and museum were established in Ford's old theater, Tenth Street.

2. The library, which is exclusively medical, but which deals with all branches of medicine and surgery and the allied sciences, provides a reading room for the general public, with the usual facilities for supplying practically all medical books and journals which can be anywhere obtained. Under the system of indexing, both of authors and of subjects, material can be very quickly supplied.

No provision is made for teaching or training, with the exception that the library is largely used by the class of candidates for the Medical Corps, United States Army, for whom a school is conducted in the same building. When there is room, a limited number of officers of State militia are admitted to the school as students. The library is constantly used by local physicians and students. Assistance is given to all in their researches as far as can be done by the library force.

4. So far as concerns the museum halls there are many visitors; it is impossible to state the number. No record has been kept of those who have availed themselves of the facilities offered by the gross specimens and the labaratories.

5. It is not contemplated to enlarge the scope of the facilities offered.

6. Encouragement is not given to undergraduates to pursue special inquiries, as the colleges seem the proper place to furnish such facilities. The entire museum and library building is so fully occupied that there is no spare room, and the laboratory accommodations are restricted. There are no student assistantships or analogous positions.

WAR DEPARTMENT: OFFICE OF CHIEF OF STAFF.

(Officer reporting: T. W. Jones, lieutenant colonel, General Staff, chief Second (Military Information) Division, in supervisory charge War Department Library.)

1. The supervision of the War Department library was transferred to the office of the Chief of Staff April 10, 1904.

The War Department library was established in the last decade of the eighteenth century (Am. State papers, misc., 1:232. Annals of Congress, 1799–1801, p. 1357).

2. Much research has been done by consulting students during the past 15 years in historical and military subjects.

The following valuable reference works are easily accessible: American Archives (all in print); American State Papers; Journals of the Continental Congress; all the original journals of the Senate and the House of Representatives; the sheep-bound set of congressional documents and reports from the Fifteenth Congress to date; Annals of Congress; Register of Debates; Congressional Globe; Congressional Record; executive journals of the Senate; Statutes at Large; Revised Statutes; official and unofficial photographs of the Civil War included in Subject Catalogue No. 5; valuable albums of the Spanish-American War prepared by the War Department, the only ones in existence outside of four private sets; a very valuable collection of newspaper clippings on the Spanish-American War in 20 large folios volumes, the only set in existence; official gazettes of Madrid, Manila, Habana, and Porto Rico in almost complete series for the last 30 years of the nineteenth century.

Twenty catalogues and finding lists have been issued by the library, including bibliographies on Texas, Mexico, and the Mexican War; State participation in the Civil War, Chickamauga, and Chattanooga; military biographies and public documents of the first 14 Congresses. See also page 105 of Guide to Archives of the Government of the United States in Washington, published by the Carnegie Institution of Washington, second edition, 1907.

4. Two thousand army officers, bureau chiefs, clerks, and a few historical students outside official circles interested in military history, military science, or general history.

5. See remarks under 2.

6. The reference facilities are not limited to any class, but preference is given to consulting students from the Army and the department.

No more than 15 students can be conveniently accommodated at any one time.

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WAR DEPARTMENT: BUREAU OF INSULAR AFFAIRS.

The bureau has collected quite an extensive library of publications on the insular possessions, but it would be impossible to give students and others the opportunity to use it for research and study, owing to the limited office space which the bureau has. The library was inaugurated for the administrative purposes of the bureau, and there is no room in the space assigned to the bureau where it would be practicable to persons not connected with the bureau to use the books.

Letters are being constantly received from physicians and health officers from all parts of the United States requesting information, which is given wherever practicable, or all facilities are afforded to agents who desire to make more extensive researches on the spot.

Books are lent to libraries, scientific bodies, and institutions all over the United States. The library of the Surgeon-General's office is regarded as the largest and most complete collection of the kind in the world, and is so recognized in this country and in Europe.

3. The facilities for the fiscal year 1908 do not differ from those which have been afforded during the previous years.

4. It is impossible to even approximate the number of visitors making use of the library. The reading room is generally full of local physicians and students, and nearly always there are two or three from other parts of the country, occasionally even from Europe, who are making special research. For these, tables in the library hall are furnished and the books kept together for them until their work is completed. The special research work done may be in any of the innumerable lines indicated by the character of the library; not only investigations of medical or surgical interest, but those pertaining to public health, medical jurisprudence, criminology, medical botany, zoology, etc., are pursued here.

5. No additional facilities will be offered for the fiscal year 1909.

6. The use of the facilities of the library is not limited to any particular type of inquirer. The visitors include all classes, from medical students at the Washington colleges to scientists of national renown, who wish to use the library. There are no student assistantships or analogous positions, and, in fact, no funds are available for the employment of any assistants outside of the regular force, which is from the classified civil service.

WAR DEPARTMENT: MUSEUM OF SURGEON GENERAL'S OFFICE.

(Officer reporting: F. F. Russell, Captain, Medical Corps, United States Army.)

1. The Army Medical Museum and library of the Surgeon General's office was established in its present status in 1887, at which time this building, erected for its reception, was first occupied. Prior to that time the library and museum were established in Ford's old theater, Tenth Street.

2. The museum has been open to the general public from soon after the time of its organization in 1862. In addition, physicians, and within certain limits students, have access to the museum specimens, workrooms, and laboratories for the carrying out of special researches. Specimens are also loaned for exhibition at various expositions and congresses. No provision is made for teaching or training except in connection with the Army Medical School, which is located in the same building.

3. The museum consists of one large hall and a smaller room, in which are arranged the gross specimens of anatomy, pathology, embryology, casts, instruments, apparatus, transportation appliances, X-ray photographs, medals, weapons of war, and miscellaneous articles. There are also pathological, anatomical, and bacteriological laboratories, and X-ray and photograph rooms. All specimens, laboratories, etc., are used as far as desired by the Army Medical School, and by civil physicians and occasionally students who desire to pursue some special inquiry, so far as such inquiry does not interfere with the current work of the office.

NAVY DEPARTMENT: HYDROGRAPHIC OFFICE.

(Officer reporting: Charles C. Rogers, commander, United States Navy, hydrographer.)

1. 1866. Prior to 1866 the Hydrographic Office was practically connected with the United States Naval Observatory. In 1843 Lieut. Gilliss planned an observatory and depot of charts. In 1842, by act of Congress, the Navy Department was reorganized and under it the Secretary of the Navy placed the depot of charts and instruments in the Bureau of Ordnance and Hydrography. In 1844 Lieut. Maury took charge as superintendent of the depot and observatory referred to in documents of that

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period as the Naval Observatory and Hydrographic Office, but it was not until June 21, 1866, that the Hydrographic Office, as now understood, was established.

3. A few apprentices are under instruction in this office in engraving, plate printing, and chart construction. They are engaged on the current work.

6. Admission for the use of facilities should be limited to students of engraving and drafting. Under present conditions no students could be accommodated. Facilities could be offered only by providing more room space and additional force in the Division of Chart Construction. This would require an appropriation for renting additional rooms and for paying the salaries of additional employees. The work of the office is that of chart construction, and the space and force available are hardly sufficient for the current demands.

NAVY DEPARTMENT: UNITED STATES NAVAL OBSERVATORY.

(Officer reporting: W. J. Barnette, captain, United States Navy, Superintendent Naval Observatory.)

1. 1893. Founded in 1842; began work in 1845; removed to present site in 1893. Detailed information may be found in annual reports of the superintendent and the publications of the Naval Observatory.

2. Library offers facilities for advanced students. The 12-inch equatorial telescope is used one night per week for the instruction of schools interested in astronomy and also for the general public.

4. The approximate number of persons visiting the 12-inch telescope during the fiscal year 1908 up to May 25, 1908, was 1,420. Not possible to give the number of visitors to the library.

6. Only advanced students in the sciences represented in the library, viz, theoretical and practical astronomy and theoretical and applied mathematics, would be benefited by the use of the library.

The instruction rendered to schools and others by the use of the 12-inch telescope is of a general nature.

Admission to the telescope is by card.

NAVY DEPARTMENT: UNITED STATES NAVAL MEDICAL SCHOOL.

(Officer reporting: John C. Wise, medical director, United States Navy.)

1. The United States Naval Medical School was organized under the department's order of May 27, 1902. The first session of the school was in the fall of that year. Since 1902 the sessions have continued each year. During the years 1894, 1895, and 1896 there was a school with similar object at the United States Naval Laboratory, Brooklyn, N. Y. As a result of an insufficient number of medical officers, and later on by reason of the Spanish-American War, this school was discontinued.

2. The course is mainly to qualify officers of the Medical Corps of the Navy for work in the Tropics. Consequently special attention is directed to bacteriological work in connection with tropical diseases and to medical zoology. Naval hygiene, military surgery, and instruction in naval tactics and duties of naval medical officers, including naval law, are other necessary subjects.

3. (*a*) The library contains about 13,000 volumes. The books are chiefly of periods covering latter half of the nineteenth century. There is a small library of recent medical works along laboratory lines.

(*b*) There is desk room in the bacteriological laboratory for 28 students, and for a similar number in the chemical laboratory.

(*c*) The instructors are members of the Medical Corps of the Navy, who, by reason of familiarity with service requirements, are able to judge of the most advantageous lines upon which to conduct the courses.

(*d*) These are recruited from the Hospital Corps of the Navy, and their work is along the lines of routine laboratory work.

(*e*) There is no provision for appointment of student assistants.

4. There were 35 junior members of the Medical Corps in the class for those just entering the naval service, which course continued from October 1, 1907, to March 31, 1908. The course for those of advanced rank commenced April 15, 1908, and will continue until June 15, 1908.

5. The course as pursued during 1908 will be continued.

6. As at present constituted only medical officers of the navy are given instruction at this school.

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NAVY DEPARTMENT: LIBRARY AND NAVAL WAR RECORDS.

(Officer reporting: Charles W. Stewart, superintendent library and naval war records.)

1. (Act of June 7, 1884.) This office contains a voluminous amount of manuscript matter, as set forth in Guide to Government Archives, published by the Carnegie Institution, Washington, D. C.

This is a dual office, with two functions: (1) That of collecting and publishing the Official Records of the Union and Confederate Navies in the War of the Rebellion; (2) the library of the Navy Department. The office is also a general information bureau for naval data, and has charge of all the correspondence regarding volunteer naval officers in the Civil War. A considerable amount of manuscript data regarding the personnel of the Continental navy, transferred to the Navy Department in accordance with law, has been deposited in this office, and further transfers of this class of matter relating to the Navy prior to the Civil War will be deposited.

2. The official records of the office of the Secretary of the Navy may be examined under the supervision of this office (see question 1), by authorization of the Secretary of the Navy.

3. Same as heretofore, except that occasional additions of naval manuscript data are made from time to time.

(*a*) Library facilities are extended to persons authorized by the Secretary of the Navy.

(*b*) None.

(*c*) No supervision, but aid is extended in making searches.

(*d*) Excellent opportunity afforded to employees to study naval history.

(*e*) No provision for student assistants.

(*f*) Catalogues of the most important naval records are at hand, and facilities are extended for their examination.

4. The number of historical students has been two—Dr. Charles Oscar Paullin, Ph. D., of the Chicago University, author of a history of the Continental Navy; Mr. Robert W. Neeser, Fellow of Yale College, author of Statistical and Chronological History of the United States Navy, 1775–1907.

This department and its officers make constant use of the records of this office.

The volume "John Paul Jones Commemoration" was compiled in this office and published during the year under the direction of the Joint Committee on Printing.

5. No change is contemplated in existing arrangements of this office.

6. The use of the office and the records of the department is limited to the department's officers, and persons authorized by the head of the department to make naval researches. This office develops along narrowing naval lines, and its function is to supply naval information.

The number that can be accommodated is limited and there are no assistantships.

7. This office is a part of the office of the Secretary of the Navy, and under his control. It is not a part of any bureau, and its head is a civilian, a graduate of the United States Naval Academy, familiar with naval records and history.

DEPARTMENT OF THE INTERIOR: GENERAL LAND OFFICE.

The commissioner reports that there are no facilities for the supervision and direction of students, and no special opportunities for training, "except such as are afforded by the lower grades of work performed under the direction and supervision of section and division chiefs and reviewers."

DEPARTMENT OF THE INTERIOR: PATENT OFFICE.

(Unsigned.)

1. July, 1836. The office was established in 1790, and the first patent granted bore date of July 31 of that year. The reorganization of to-day was effected in 1836, as above indicated.

2. The chief facilities offered are:

(1) The Scientific Library, containing about 84,000 volumes.

(2) The classified United States patents in the preliminary search room, open to the use of the public.

(3) The Card Index to Chemical Literature, in the classification division.

3. (*a*) The Scientific Library is particularly complete in its collection of scientific periodicals and its technical works. It is open to the public, and contains a card catalogue of current technical literature.

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Closely allied to this is the Card Index to Chemical Literature in course of preparation in the classification division, now comprising over 400,000 cards.

There have already been granted about 900,000 United States patents, which are arranged in classes and subclasses for convenience of search, and placed in the preliminary search room for the use of the public. The office uses a printed "Classification of Subjects of Invention," from which students engaged in any particular line of physical or chemical research or study can readily ascertain which of the various classes and subclasses of patents it might be worth their while to consult. These patents will frequently give clues to the latest results and attainments in chemistry and physics, pure and applied, which do not otherwise find their way into print until a much later period.

(*b*) The Patent Office has no laboratory facilities to offer students.

(*c*) There are no students in the sense this clause seems to imply, and the assistant examiners are supervised by the principal examiners in charge of the different groups of arts and sciences arranged in classes and subclasses in the several divisions of the office, of which there are at present 41.

(*d*) Special opportunities are offered to the corps of Patent Office examiners for study and training in general in patent law, and in particular along the lines of the particular science or art covered by the classes assigned to them for search purposes.

(*e*) No provision is made for the appointment of student assistants.

(*f*) The field of research is about covered by the above.

4. The library is regularly used by certain members of the special corps of abstractors of the American Chemical Society engaged in preparing the publication entitled "Chemical Abstracts," particularly those engaged in abstracting foreign chemical patents.

Mr. Otis D. Swett, registrar of the George Washington University, is one of these abstractors working regularly in the library on foreign chemical patents.

Some use has heretofore been made by students of the Card Index to Chemical Literature, but not to nearly as great an extent as could be. Any students engaged in chemical or physical research work and desiring to investigate the literature of the subject or compile a bibliography, would be greatly helped by a free use of the same.

5. See answer to question 3.

6. There has been no limitation placed upon the use of the library, the card index, or the classified patents.

DEPARTMENT OF THE INTERIOR: BUREAU OF EDUCATION.

(Officer reporting: Lovick Pierce, chief clerk.)

1. June 30, 1869.

Statistics of education were first collected by the Federal Government for the census of 1840, and each of the census reports since that date has included summarized statistics on that subjects. These data, however, were published only at intervals of 10 years and in condensed form; consequently there was felt, especially by educators, the need of some central agency by which information respecting education throughout the world could be collected annually and be preserved, consolidated, and properly arranged for dissemination. Pursuant to a memorial of the National Educational Association, Congress established by an act approved March 2, 1867, a department of education "for the purpose of collecting such statistics and facts as shall show the condition and progress of education in the several States and Territories and of diffusing such information respecting the organization and management of school systems and methods of teaching as shall aid the people of the United States in the establishment and maintenance of efficient school systems and otherwise promote the cause of education."

By the act of July 28, 1868, which took effect June 30, 1869, the Department of Education was abolished and an office or Bureau of Education in the Department of the Interior was established, with the same objects and duties as were specified in the act of March, 1867.

2. Immediately after the establishment of the bureau it began the collection of statistics, reports, catalogues, and other documents from the educational systems and institutions in the several States in this country and in foreign countries, and has thus brought together during the 41 years of its existence a large body of domestic and foreign educational reports, reference books, periodicals, journals, and other documents relating to the various phases of education. The library is indispensable to the working force of the bureau and is rich in material for the student of the history and science of education. It has been the policy of the bureau from its establishment to the present time to place its library at the service of students engaged in research

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and to furnish them all the assistance that could be given in the inadequate building which it occupies.

In addition to the library collections, an effort was made in the earlier years of the bureau's history to gather material for a museum that should be an object lesson of educational development and advancement. This collection comprised designs for schoolhouses, desks, and school furniture; mechanical devices for instruction in industrial arts; models of objects in wood, clay, and metal, showing the advancement of pupils from rude beginnings to something of artistic finish; photographs of school and college buildings and grounds and of groups of pupils of all grades; portraits and busts of educators and benefactors of education; together with a series of models illustrating the development of farming implements from the earliest time in our own and other nations. As increased office space was required for the office staff and for the rapidly growing library it became necessary to crowd the museum collections into gradually diminishing space until, in 1906–7, all that was valuable was packed in boxes to await the time when room for its useful and proper display should be provided.

3. In the early years of the bureau's history it was the recipient of many contributions of valuable works of general literature, the most notable of these being the gift of the collection of 5,000 volumes selected for a popular library by the American Library Association and exhibited at the World's Fair in Chicago in 1893. These acquisitions and the natural growth of the library gradually overcrowded the space available and rendered a change of policy imperative. During the fiscal year 1908 all books not pertaining directly to the work of the bureau and not absolutely necessary for reference use by the office force and by other students of education were placed in other bureaus and libraries of the Government, where they more appropriately belonged. This work has been practically accomplished. The collections reserved in the library of the bureau number 146,490 volumes and pamphlets and consist of works on education and closely related subjects. These are in process of being arranged for the more convenient use of students of education. In its special field it is probably the largest single collection in America, and its assemblage of American educational periodicals, State and city school reports, and college and school catalogues is perhaps the largest in existence. A list of educational periodicals currently received in the library is published in the annual report of the commissioner. The periodicals themselves are indexed.

A union catalogue of educational literature available in the library of the bureau, the Library of Congress, and important pedagogical collections in other cities, is in course of preparation.

4. No record has been kept of the number of persons who have availed themselves of the facilities offered by the bureau in past years. Many students of education have visited the library and made use of the material filed therein for reference. In former years Prof. Herbert B. Adams, late of Johns Hopkins University; Dr. J. L. M. Curry, agent of the Peabody and Slater funds; Dr. A. D. Mayo, in his "Ministry of Education in the South;" and other well-known educators and students were frequent visitors and made free use of the collections.

5. These are outlined in answers to Nos. 3 and 4.

6. The conditions of admission to the use of the facilities afforded are not stringent or exclusive. Earnest students are always welcome; the library staff will cheerfully render them all needed assistance and place at their disposal reference books, desks, and stationery. Even in the limited quarters now occupied by the bureau, desk room can be given to as many as six or eight students at a time. By special agreement, books may be borrowed for a limited time and used outside of the office.

DEPARTMENT OF THE INTERIOR: UNITED STATES GEOLOGICAL SURVEY.

(Officer reporting: George Otis Smith, director.)

1. March 3, 1879. A sketch of the United States Geological Survey, giving an account of its origin and development, organization, and operations is contained in the Survey Bulletin 227.

2. The survey has probably the largest geological library in America which is available for general use. The geological and other specimens collected by members of the survey are deposited in the National Museum, where they are open for examination.

3. There were in the library in 1904 about 50,000 bound volumes, 80,000 pamphlets, and 30,000 maps, besides many books that form parts of sets of periodicals and of proceedings of societies, museums, and congresses, that have not been entered in the accession book. A rather large percentage of books received are unbound, and dur-

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ing the last few years the binding has not kept pace with the increase. An effort has been made to remedy this.

Under the law the library at 1330 F Street, second floor, is open to the public from 9 until 2 o'clock. During these hours it is in constant use by outside students, as well as by members of the survey. The latter are permitted, in addition, to draw from the library any books, except encyclopedias and dictionaries, that are needed by them in their investigations.

4. No record is made of the number of persons availing themselves of the library.

No students have availed themselves of the facilities for advanced study and research in the office of the Geological Survey in the last 16 years. The chief reason for this has doubtless been the crowded condition of the office of the survey, and the consequent inability of the survey to furnish the necessary facilities for such students. It is impossible to estimate the number of students who would take advantage of the library, laboratories, and collections of the survey if facilities were available, but it is probable that a considerable number of advanced students would come to Washington for study if it were generally known that the necessary facilities could be offered to them.

DEPARTMENT OF THE INTERIOR: RECLAMATION SERVICE.

(Officer reporting: F. H. Newell.)

1. The Reclamation Service was established in July, 1902. Prior to that time the work in which it was engaged was conducted by the Geological Survey, of which the Reclamation Service may be said to have been an offshoot.

2. No facilities are offered for advanced study or research. The work of the Reclamation Service is largely survey, examination, and construction of large works for the irrigation of arid lands, and up to the present time there has not been any opportunity for investigations, excepting such matters as those connected with cement or building materials. All of these details are, however, handled by the technological branch of the Geological Survey.

3. No special facilities are offered during the year 1908. There are no libraries nor laboratory facilities, and the only opportunities for study and training are those in connection with the development of the younger assistants in the field.

4. No persons availed themselves of the facilities during the fiscal year 1908 other than the younger assistants indicated above.

5. No special facilities are offered for the fiscal year 1909.

6. No regulations have been considered concerning the conditions of admission to the use of any facilities enjoyed by the Reclamation Service.

DEPARTMENT OF THE INTERIOR: GOVERNMENT HOSPITAL FOR THE INSANE.

(Reporting officer: William A. White, superintendent.)

1. The pathological laboratory was instituted in 1884. The psychological laboratory was instituted in 1907.

2, 3. As indicated above, the Government Hospital for the Insane maintains two laboratories, one consisting of a pathological department, in which are included pathology, clinical pathology, histopathology, and bacteriology and chemistry, and the other being a psychological laboratory. These laboratories exist solely for the study of problems associated with insanity. Specimens from the pathological laboratory of the hospital have been utilized before the medical students of the Georgetown University Medical School between the years 1885 and 1905 in instruction outside the hospital, and since the latter date mentioned these students, with those of the George Washington University Medical School, have been admitted to the laboratory at regular periods for the purpose of witnessing demonstrations and receiving instruction. In the psychological laboratory facilities have been placed at the disposal of advanced students in George Washington University. It should be understood that those who are desirous of studying the abnormal mental life may be afforded opportunity to enter these laboratories after their applications have been passed upon by the superintendent of the hospital. Each laboratory is under the charge of an officer of the hospital, both of whom are engaged constantly in research work in their special fields. In the case of the pathological laboratory the annual reports of the hospital, with some supplementary ones issued specially for the purpose, will indicate some of the work done in that department. See also the report of the hospital for 1907, page 24, outlining the creation of the psychological laboratory. The facilities of these laboratories are extended to those pursuing original investigations, to students doing graduate work, and to others whose applications may be approved by the superintendent of the hospital.

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4. Dr. Hamilton Wright, of Washington, D. C., whose work was along neurological lines. Dr. Wright has been in charge of a laboratory in India.

Dr. Alberta Guibord, also of Washington, whose work has been of a general nature in the psychological laboratory. Dr. Guibord was connected with the State Hospital for the Insane, Westboro, Mass., as assistant physician for several years.

DEPARTMENT OF AGRICULTURE: WEATHER BUREAU.

(Officer reporting: Willis L. Moore, chief.)

1. February 9, 1870.

Several branches of the Federal Government were engaged in meteorological work before the organization of the Weather Bureau, chief of which were the United States Lake Survey on behalf of the War Department, Commander Maury on behalf of the Navy Department, and Surgeon General Lawson and others on behalf of the Medical Department of the Army.

2. Some years prior to 1908 advanced study in meteorology was prosecuted by a small number of students of the George Washington University. Lectures were delivered to the class by the higher officials of the bureau; in recent years, however, such lectures have been abandoned.

3. The Weather Bureau offers the use of its library to students pursuing courses in atmospheric physics or other related subjects. It also offers opportunities for studying the methods of preparing synoptic charts and their use in weather forecasting. Laboratory facilities and the supervision of students can not be provided. The library of the Weather Bureau is a highly specialized one and is the most complete of its kind in this country.

4. The studies which have been made in the Weather Bureau in the past have been confined to special students of meteorology and representatives of foreign meteorological services. A representative of the German Meteorological Service, Dr. P. Polis, of Aachen, Germany, made a systematic examination of the means and methods employed in this country in conducting its weather service. His conclusions will be found in Der Wetterdienst und die Meteorologie in den Vereinigten Staaten Amerika und in Canada (Berlin, 1908).

DEPARTMENT OF AGRICULTURE: BUREAU OF ANIMAL INDUSTRY.

(Officer reporting: A. D. Melvin, chief.)

Beyond allowing access to its collections of animal parasites and pathological specimens, the bureau is not prepared to offer facilities for advanced study and research in its laboratories—pathological, biochemic, zoological, or dairy.

DEPARTMENT OF AGRICULTURE: BUREAU OF PLANT INDUSTRY.

(Officer reporting: A. F. Woods, assistant chief of bureau.)

1. July 1, 1901.

2. Prior to the establishment of the Bureau of Plant Industry work was conducted in separate divisions, as follows: Divisions of Vegetable Pathology and Physiology, Botany, Agrostology, Pomology, and Gardens and Grounds. Opportunities were given to investigators in botany and mycology to work in the herbarium, and to investigators of pathology, physiology, etc., to work in the laboratories where investigations on these subjects were carried on. These investigators were required to furnish satisfactory evidence of their ability to work in the line in which they were interested, and to come to the laboratories at such time as would not interfere with Government work.

3. Facilities are offered in the Plant Industry library, where most of the important works relating to botany, horticulture, and all subjects pertaining to plants are available. Facilities can occasionally be offered to qualified investigators to work in the field and in the laboratories. The opportunities offered are intended specially for investigators in experiment stations and similar institutions who desire to work out particular problems, or familiarize themselves with methods not available in their own institutions. The laboratories are not able to undertake the training of students, but the experts in charge of the laboratories are always glad to give students suggestions and advice relative to the courses they wish to pursue, the work they desire to carry on, etc. Every opportunity is given to members of the office and laboratory forces to perfect themselves along scientific and other lines relating to their work. The experts give their time freely in assisting members of the force in order to increase their efficiency.

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4. Dr. Charles Thom and Prof. L. N. Duncan have availed themselves of opportunity to carry on scientific research in plant pathology and bacteriology during the past fiscal year. Dr. Thom is a member of the staff of the agricultural experiment station at Storrs, Conn. He took the degree of bachelor of arts at Lake Forest College in 1895 and the degree of master of arts at the same college in 1897. From 1897 to 1902 he was instructor in the University of Missouri, taking the degree of doctor of philosophy at that institution in 1899 under Dr. Ayres. From 1902 to 1904 he was instructor in botany-mycology at Cornell University, and from 1904 up to the present time has been engaged as mycologist in cheese investigations for the dairy division, Bureau of Animal Industry, carrying on these investigations at the Connecticut Experiment Station. Prof. Duncan is an instructor in agronomy at the Alabama Polytechnic Institute, at Auburn, at which institution he was graduated. Since his graduation he has been assistant to Prof. Duggar at the agricultural college at Auburn, Ala., and also instructor at the agricultural school at Athens, Ga.

Messrs. L. C. Brown, a seedsman, of La Grange, Ill., and Prof. French, assistant botanist at the New York State Experiment Station at Geneva, spent four week each in our seed-testing laboratory during the year studying our methods of seed testing. Two seedsmen and an assistant from the Maine Experiment Station are expected to come to our seed-testing laboratory this month to study our methods.

Mr. Yau Hang Tong, B. S. A., a Chinese student at Cornell University, who has just presented to that university a thesis on rice for the degree of master of science in agriculture, spent several months during the past winter in our grain laboratories.

The same facilities as above are offered for 1909.

6. Opportunities are offered only to investigators thoroughly prepared for their work. No statement can be made as to the number of investigators who can be given facilities for work in the bureau, as the opportunities very from time to time, but usually one or two could be provided for in each of the 30 or more laboratories in the bureau. All appointments to regular positions in this bureau are made through the Civil Service Commission. For the lower and medium-grade scientific positions appointments are made from the eligible registers of laboratory assistants and scientific assistants, and for the higher positions from registers made up from special examinations. The list of the examinations held by the Civil Service Commission for scientific positions are given in the Manual of the Civil Service Commission.

DEPARTMENT OF AGRICULTURE: FOREST SERVICE.

(Officer reporting: Raphael Zon, Chief Office of Silvics.)

1. February 1, 1905.

2. The only position in the service which has been open to those whose training in forestry was incomplete was that of forest student. It was created in order to afford young men who had determined to make forestry their profession an opportunity to become familiar with the methods of the service in the field and in the office. The work as a forest student did not constitute in itself a stepping-stone to higher positions in the Forest Service, but formed a part only of the training useful in fitting a man for the profession of forestry. It was the policy of the service to retain a man as forest student only long enough for him to gain full advantage from the opportunities for field and office work which the position offered. It was expected that he would continue his training elsewhere. This policy was in force for about seven years, up to about 1906.

3. With the change in the character of the work of the Forest Service, brought about by charging it with the administration of the National Forests, the policy of appointing forest students has been discontinued. The solution of the problems which now present themselves demands more intensive study than in the beginning and requires in every detail the attention of technically trained men.

6. The preparation for forestry as a profession may best begin with a college or university course, in which the student should acquire some knowledge of the auxiliary subjects necessary in forestry. Of these, the more important are geology, physical geography, mineralogy, chemistry, botany—in particular that branch which deals with the anatomy, physiology, and life history of plants—and pure and applied mathematics, including a practical understanding of the principles of surveying. The student who, in his college course, can include physics, meteorology, and political economy will be the better equipped to take up his technical forest studies.

Graduation at a college or university should be followed by a full course at a school of instruction in professional forestry, of which there are now several in this country.

See Forest Service Circular No. 23, page 3.

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DEPARTMENT OF AGRICULTURE: BUREAU OF CHEMISTRY.

(Officer reporting: W. D. Bigelow, assistant chief.)

1. July 1, 1901.

Much of the work now conducted by the Bureau of Chemistry was previously conducted by the Division of Chemistry, which was changed to the Bureau of Chemistry on the date mentioned above. The Division of Chemistry was created on the appointment of the first chemist of the department in 1862.

2. The various lines of work conducted by the Bureau of Chemistry are given in Circular 14 of the bureau. The facilities include the well-equipped laboratory and all field resources that are necessary.

3. (*a*) Library facilities are of the best. Our library includes practically all treaties desired by the bureau.

(*b*) Laboratory facilities are somewhat inadequate at the present time, owing to the great increase in the number of employees. New space has been secured, however, and the facilities will be greatly enlarged during the next few weeks. The laboratories will then include about 40,000 square feet of floor space, with ample facilities of all kinds.

(*c*) No students as such are in the bureau. The workers are confined to the regular employees.

(*d*) The majority of the scientific employees of the bureau specialize sooner or later, and every opportunity is given them to master their specialty as completely as possible. Before they begin to specialize, however, it is desired that they receive broad experience, and to this end the nature of their work is occasionally changed.

(*e*) There is no provision for the appointment of student assistants, as such have been found to interfere seriously with the work of the bureau.

4. There are in the Bureau of Chemistry in Washington about 90 scientific employees. As stated above, no opportunity is given to others than regular employees.

5. As stated above, no opportunities are offered except to regular employees of the bureau. To young men who have completed a thorough course in chemistry and who desire experience in a large laboratory, excellent opportunities are offered.

6. Regular civil-service examinations are given from time to time. The number of eligibles on the lists established from such examinations is never great, and frequently is insufficient for the needs of the bureau. Applicants for such examinations should have followed a course leading to the degree of Bachelor of Science or its equivalent, and their course in chemistry should have been not less than a three-year course of nine recitation hours per week, three laboratory hours counting as one recitation hour. Appointments for research work alone are not made. All appointees are expected to do either research or routine work as the needs of the service may require.

DEPARTMENT OF AGRICULTURE: BUREAU OF SOILS.

(Officer reporting: Milton Whitney, chief.)

1. The Bureau of Soils was organized in 1901. Originally this bureau was created as a separate Division of Agriculture Soils in the Weather Bureau. In 1894 it was made a separate division of the Department of Agriculture, and in 1901, by act of Congress, it was recognized as a bureau

2. The bureau, both in its field parties and in its laboratories, has always welcomed the presence of anyone interested in the special lines of work being carried on, and has frequently made opportunities for such parties to avail themselves of the privilege of working in the laboratories for limited periods of time, or for short excursions with some one or more of the field parties.

3. (*a*) The library facilities are excellent for certain types of physical-chemical, biological, and agricultural sciences.

(*b*) The laboratory facilities in this bureau are very good for physical-chemical and physiological investigations of soils, minerals, fertilizers—organic as well as inorganic—and plants.

(*c*) There is no direct supervision of the voluntary workers in this bureau; they are usually associated with some one of the experts for such assistance and guidance as these experts can give them.

(*d*) Opportunities are fair for the transfer of clerical employees to field parties when the employee shows any particular aptitude.

(*e*) No provision.

(*f*) During the year 1908 short courses of lectures were offered by members of the scientific staff of the bureau in the city of Washington and at the following-named institutions: Michigan State Agricultural College, Lansing, Mich.; Ohio State University, Columbus, Ohio; State College, Pennsylvania; Cornell University, Ithaca,

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N. Y.; West Virginia University, Morgantown, W. Va.; Clemson College, Clemson, S. C.; University of Georgia, Athens, Ga.; University of Mississippi, University, Miss.; College of Agriculture and Mechanic Arts, Baton Rouge, La.; University of Kentucky, Lexington, Ky.; University of Tennessee, Knoxville, Tenn.; Women's College, Baltimore, Md.; Brown University, Providence, R. I.; Johns Hopkins University, Baltimore, Md.; Syracuse University, Syracuse, N. Y.; Board of Trade, Fort Wayne, Ind. While carrying on special investigations experts from the bureau have given courses at the State College, Pennsylvania.

4. During the year there have been probably as many as 50 persons who have visited the bureau for periods of from one day to six weeks, in order to familiarize themselves with the special methods, apparatus, and laboratory and field procedure employed by the bureau officials in their investigations and the scientific and practical lines being developed by the bureau employees. Among these were members of the faculties of American and foreign universities who were especially interested in the scientific investigations being conducted in the bureau; members of the staffs of agricultural experiment stations, who have been especially interested in the methods employed in the bureau; attachés of foreign governmental institutions interested in the methods employed by the bureau; graduate students interested in special investigations which touched upon or involved special apparatus and methods devised or employed by the scientific staff of this bureau. All persons cited above have been of the grade of advanced graduate students or trained investigators.

5. The bureau will welcome, as heretofore, properly trained men who wish to avail themselves of the opportunity of studying the special investigations and the methods employed by the bureau. No provision, however, is made or anticipated for regular student work, and the bureau is not prepared to employ persons coming with the idea of spending their time as students, either in part or in whole, but only those who are required by the exigency of the work arising in its normal and regular development.

6. There are no special regulations or conditions, but anyone properly qualified who wishes to avail himself of the facilities of the bureau will be welcomed.

DEPARTMENT OF AGRICULTURE: BUREAU OF ENTOMOLOGY.

(Officer reporting: L. O. Howard, chief.)

1. July 1, 1904.

2. No effort whatever has been made to exploit the facilities for advanced study and research for those outside of the service of the bureau. The laboratories and offices are well filled with paid assistants, and it is difficult to find desk room for the field men, when in the wintertime some of them come to Washington for consultation and to work upon their field notes and reports. Nevertheless, by a special arrangement in advance, in a number of instances, post-graduate students and officers of foreign governments have been permitted to pursue studies in economic entomology at the bureau, either during summer vacations or for longer periods. They have been given no regular instruction, but have simply been given desk room and told to use the library and collections, to watch the investigations going on, and to gain all information desired by asking questions in so far as not to interrupt the official work of the bureau.

3. Nothing more has been offered during the fiscal year of 1908 than previously and as indicated in answer to the preceding question. The library is good; the laboratory facilities are cramped, even for regular assistants; there are no facilities for the direction and supervision of students. There are special opportunities for study and training offered the members of the office force only in the line in which they are engaged, except so far as library and collections assist them in broadening their information.

4. Only two persons have stayed in Washington for any length of time during the last fiscal year, engaged in work of this character. Prof. M. J. Riviera, an official of the department of agriculture of Chile, spent a number of months in Washington studying the methods of the bureau. Mr. George G. Ainslie, a graduate of the University of Minnesota, has spent a number of months without pay doing work of the same character.

5. No special arrangements are made for the fiscal year 1909, and, in fact, office facilities will be rather more crowded than during the present fiscal year. No applications have been made to the bureau, except by advanced students wishing summer vacation work. Occasionally, when the bureau has need of such assistants, one or more of these men are appointed, but as a rule such men are employed in field investigations in connection with one or another of the numerous field parties of the bureau. Occasionally one is employed for the summer months simply as a preparator, but these cases are rare and only in case of a temporary emergency.

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6. The bureau will always do what it can for officers of foreign governments, for officers of State experiment stations, or instructors in colleges and universities, in the way of affording them an opportunity to study the methods used by the bureau, and will always give them free use of the library and collections. This is the preferred class of men welcomed here. Post-graduate students can not be cared for except in unusual cases, on account of the crowding of the laboratory rooms by paid assistants.

DEPARTMENT OF AGRICULTURE: BIOLOGICAL SURVEY.

(Officer reporting: H. W. Henshaw, administrative assistant.)

1. Established as Division of Economic Ornithology and Mammalogy in 1885; undertook biological survey work in 1889; name changed to Biological Survey in 1896.

2. In furtherance of its objects the Biological Survey has accumulated large and valuable collections of birds, mammals, and plants, which are now stored in the National Museum. These specimens are collected with a view to the light they shed on problems of geographic distribution, as well as for the purpose of determining the food habits of the several species. They furnish the data upon which many of the publications of the survey are based, and from time to time, as occasion arises, groups are studied in their more strictly scientific aspects, and the results published for the information of the public. Specimens are often received from colleges, museums, students, farmers, and others for comparison with this material, with the request that they be named and classified. The survey collections are so stored, labeled, and arranged as to be available for study by scientific investigators and by properly accredited individuals.

3. The Biological Survey library consists of books, periodicals, and reports of scientific societies, bought or received in exchange for the survey's publications. Though small, the library offers excellent facilities for study, especially on topics connected with the economic relations of birds and mammals, game protection, and the geographic distribution of animals and plants. Every opportunity for consultation is offered to students and others interested in the subjects to which it pertains.

An important part of the work of the survey is the examination of the contents of stomachs of birds for the purpose of determining the exact nature of their food—whether the insects eaten are beneficial or injurious, and whether the seeds and other parts of plants are of noxious or valuable kinds. To aid in this work a large and valuable seed collection has been formed. This is carefully labeled and arranged so as to be immediately available for the identification of seeds found in birds' stomachs. A representative collection of insects also, consisting of the species more commonly eaten by birds, greatly aids in the labor of identification. These collections are available for study and consultation. The doors of the laboratory are always open also to those who desire to study methods of work.

5. It is believed that the investigations conducted in the laboratory of the survey are more thorough and cover a wider field than any similar investigations elsewhere undertaken in any part of the world. A limited number of advanced students might be trained for future independent work in this field, which is of constantly growing importance.

DEPARTMENT OF AGRICULTURE: OFFICE OF EXPERIMENT STATIONS.

(Officer reporting: C. F. Langworthy, acting director.)

1. 1888.

The work of the Office of Experiment Stations includes: (1) Relations with American and foreign institutions for agricultural research, together with the supervision of expenditures of the agricultural experiment stations in the United States; (2) the preparation of publications, mainly based on those of the experiment stations; (3) the manag ment of the experiment stations in Alaska, Hawaii, and Porto Rico; (4) relations with agricultural colleges and schools, farmers' institutes, and kindred organizations at home and abroad, and the general promotion of agricultural education in the United States; (5) investigations on the nutritive value of different agricultural products used as human food; (6) irrigation investigations; and (7) drainage investigations. The last two lines of work (6 and 7) involve cooperation with the agricultural colleges and experiment stations.

This office represents the department in its relations with the agricultural colleges established under the acts of Congress of July 2, 1862, and August 30, 1890. It collates and publishes information regarding the organization, equipment, resources, and courses of study of agricultural colleges and schools in this and other countries. It

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promotes the general interests of agricultural education throughout the United States, including especially the introduction of instruction in agriculture into secondary and elementary schools.

2. In carrying on the various lines of work outlined above, the office has prepared and accumulated reports, maps, charts, photographs, card indexes, and other valuable information concerning the institutions for agricultural education and research in this country and abroad, all of which has been available to those wishing to study along these lines. At different times between 1899 and 1903 this office, as well as other divisions and bureaus of the Department of Agriculture, employed graduates of agricultural colleges as "scientific aids" at nominal salaries, with the understanding that the young men thus employed would be permitted to devote a part of their time to graduate study. The position of "scientific aid" has been discontinued. In connection with the nutrition investigations at Middletown, Conn., students have been given oppo: tunities for laboratory practice with the respiration calorimeter and for making dietary studies in public institutions.

3. The Office of Experiment Stations has a large number of textbooks and manuals written by teachers and investigators in agricultural colleges and experiment stations, and it also has access to the splendid library of the department. It employs a librarian and an assistant, who gladly assist the office staff and visiting workers along agricultural lines to assemble the literature of any subject. The office has also accumulated a vast amount of statistical information, historical notes, card-index references, and other published and unpublished material concerning irrigation, drainage, nutrition, and agricultural institutions in this country and abroad, which is not easily accessible elsewhere. Visiting students will be given every possible opportunity to use this material, and will be assisted and directed in their researches so far as the facilities of the office will permit.

All members of the scientific force of the office are given opportunities and are encouraged to pursue lines of study which will afford them training and contribute to the fund of knowledge concerning agricultural education and research. Special opportunities for study are afforded to members of the engineering force during several months in the year when they are in the Washington office. This takes the form of special advice regarding drainage literature in books and current periodicals, and frequent meetings of the engineering force at which topics under investigation, in connection with projects upon which the office is working, are discussed and explained in detail.

There is no regular provision for the appointment of student assistants. One graduate student, a candidate for the degree of doctor of philosophy at Columbia University, was appointed collaborator in 1908 in order that he might have better opportunities to study the problems of secondary agricultural education and in order that this office might come into possession of information collected by him which would be of interest and value to the general public.

4. Twelve members of the engineering force, one graduate student (collaborator), and several others who were here for a few days.

5. No material change in facilities is contemplated for 1909, except that the recent transfer of the respiration calorimeter and accessory apparatus from Middletown, Conn., to this city will afford an opportunity here to study questions concerned with the nutritive value of different foods, their use in the body, and related topics, while the large amount of bibliographical and experimental data now on hand is of value to students of dietetics with reference to individual, family, and institution food problems.

6. Officers, teachers, and investigators from State agricultural colleges and experiment stations and other educational institutions will be welcomed at any time and given every available facility for study and research. Occasionally a graduate student can be assisted, as in the case of the collaborator mentioned under paragraph 3, but no salaried positions are regularly open to such students.

DEPARTMENT OF AGRICULTURE, OFFICE OF PUBLIC ROADS.

(Officer reporting, A. S. Cushman, acting director.)

1. March 3, 1893. The clause in the agricultural appropriation bill of the above date empowered the Secretary of Agriculture to make inquiries in regard to systems of road management throughout the United States, make investigations in regard to the best methods of road making, etc. The work of the office has been gradually enlarged, and the division of tests, established in 1900 for the purpose of testing the physical and chemical properies of road materials, was consolidated with it July 1, 1905, to form the Office of Public Roads. An educational campaign for better roads was carried on by the National League for Good Roads previous to the establishmen t

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of this office. (See Bulletin 14, Office of Experiment Stations, and National League for Good Roads Proceedings, October 20 and 21, 1892.)

2. Owing to the demand for skilled highway engineers and the insufficient number available, the office determined in 1905 to provide instruction of a practical character in this branch of engineering. Since that year a limited number of graduate civil engineers have been appointed annually to the position of civil engineer student after having passed competitive examinations. These men are employed for a period of one year at $50 per month and expenses while on field duty, during which time they receive practical training and instruction not only in laboratory work and methods of road administration, but also in actual road building in various parts of the country. At the end of this period they are eligible for promotion without further examination.

3. The office has well-equipped physical laboratories, which test the physical properties of road materials submitted. Chemical and petrographic analyses are also made in many cases.

The library of the office contains standard works on highway construction and civil engineering, files of State highway commission reports and bulletins, State geological survey reports, and works on chemistry, physics, and geology for use in the laboratories. About 50 domestic and foreign technical and trade journals are regularly received.

The chemical laboratory is equipped for the analysis of road-making rocks, slags, and cements, and for the examination of oils, tars, and asphalts. The physical laboratory is equipped for mechanical and physical tests of road materials to determine hardness, toughness, cementation value, tensile strength, and resistance to compression.

The civil engineer students are under the immediate direction of the chief engineer when engaged in field work, and under the assistant director when engaged in laboratory work. During the months of January and February, 1908, when there was little field work in progrsss, courses of lectures were given by members of the office staff. Each student's time was divided into lecture hours and laboratory work. The students were then sent into the field for actual work on roads.

All branches of the work of the office are closely correlated, and members of the staff are given opportunities for study, described under sections a, b, and c.

In special instances, where instruction in the road-material laboratory and special courses in highway engineering are desired, there is opportunity for the appointment of a few students for laboratory and field instruction during the summer months.

It is the policy of this office to cooperate closely with colleges with a view to introducing, wherever practicable, a course in highway engineering, and, where this has already been done, assist in developing and improving such course. To this end lectures are given by members of the office staff in colleges and suggestions furnished in regard to the curricula necessary.

4. The following civil engineer students were appointed during the fiscal year 1908: Andrew P. Anderson, Bozeman, Mont., graduate Montana Agricultural College; Lucius D. Barrows, Orono, Me., graduate University of Maine; Randolph Maritn, Indiana, graduate Purdue University; Charles R. Thomas, jr., Newbern, N. C., undergraduate University of North Carolina; and Raymond E. Toms, Frederick, Md., graduate Cornell University.

The following studied the work of the testing laboratory: Prof. W. R. Hoag, of the University of Minnesota; Capt. Harry A. Eaton, United States Army, of the University of West Virginia.

Prof. H. L. Bowlby, of the University of Washington, was employed for field engineering during the summer of 1907.

5. Facilities for the fiscal year 1909 will be of the same character as those offered for the fiscal year 1908.

6. The civil engineer students are recruited from the results of annual civil-service examinations. Applications will be received only from graduates in civil engineering and from graduating students. They must be 20 years of age or over on the date of the examination. The examination consists of the subjects mentioned below, weighted as indicated:

	Weights.
1. Pure mathematics	20
2. Theoretical and applied mechanics	20
3. Construction and use of instruments (including field work)	20
4. Materials of construction	20
5. Elements of construction	20
Total	100

No provision has been made for instruction other than that described above, and the number of civil-engineer students is limited by the amount of the annual appro-

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priation available for this purpose. No student assistants are appointed under the present arrangements.

Graduate students in engineering from recognized colleges and universities are admitted to pursue special lines of investigation when the director is satisfied that they will do efficient work.

DEPARTMENT OF AGRICULTURE: LIBRARY.

The library of the Department of Agriculture has notable collections of books, periodicals, and society publications on agriculture and related sciences. These collections are open to the public for reference use from 9 a. m. to 4.30 p. m. on secular days.

DEPARTMENT OF COMMERCE AND LABOR: BUREAU OF CORPORATIONS.

(Officer reporting: Herbert Knox Smith, commissioner.)

The information collected by the Bureau of Corporations is so largely of a confidential character, until published by order of the President, that it is impracticable to afford facilities to students for study or research. The library of the bureau is very small, consisting mainly of law books, statutes, and official documents, with a few trade papers, nearly all of which are more readily accessible to students elsewhere, and the bureau has no available office room for the accommodation of students desiring to use its library. The published reports of the bureau, however, contain much exact information of ultimate value to students of industrial conditions. The reports thus far published, aside from the annual reports of the commissioner, are on the following subjects:

1. The Beef Industry. March 3, 1905.
2. Transportation of Petroleum. May 2, 1906.
3. The Petroleum Industry: Part I. Position of the Standard Oil Co. in the Petroleum Industry. May 20, 1907. Part II. Prices and Profits. August 5, 1907.
4. Cotton Exchanges: Part I. Methods of Establishing Grade Differences for Future Contracts. May 4, 1908.

The bureau has also furnished the Inland Waterways Commission a large amount of matter to be published in the appendices to the commission's report.

DEPARTMENT OF COMMERCE AND LABOR: BUREAU OF MANUFACTURES.

(Officer reporting: John M. Carson, chief.)

1. February 14, 1903. This bureau, however, was not organized until February 1, 1905.

2. Numerous reports on special subjects, mainly commercial and industrial, relating to conditions in foreign countries, have been published. Many of these are out of print. Prior to 1903 these reports, also "Commercial Relations of the United States" (annual), Daily Consular Reports, and Monthly Consular Reports were published by the Department of State.

3. The library is confiend to bureau publications and other public documents concerning commerce and industry, and laws and regulations of foreign countries relating to customs tariffs and cognate subjects.

Persons appointed to the Consular Service, before proceeding to their consulates, and consular officers returning home on leave of absence, might be assigned temporarily to this bureau for duty and practical instruction in the commercial needs of the country, as presented in the correspondence of representative manufacturers and merchants engaged in foreign trade, and in the preparation of consular reports. In case of those newly appointed the service with this bureau should be for a period of two weeks.

5. Facilities offered for the year 1909 will be the same as those at present.

6. Students calling at the Bureau of Manufacturers will be permitted to consult the books and documents relating to customs tariffs of foreign countries and to commercial conditions throughout the world. They could also see the methods of operation in the bureau by which reports from the United States consular officers in foreign countries are compiled and edited, and the methods of filing information relating to commercial and trade opportunities in foreign countries, all of which information is published and distributed gratis to people who are interested.

Owing to the lack of commodious quarters, the space accommodations of the bureau are extremely limited, so that it would be impossible to accommodate more than one student at a time if he desired to spend the greater part of the day in the bureau.

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7. Numerous samples of goods (mostly textiles) manufactured in foreign countries have been collected by consular officers and special agents; also photographs showing machinery, methods, etc. These are sent to interested parties making application and to textile schools. No facilities are offered for establishing a depository or museum for exhibition and permanent preservation of this material.

DEPARTMENT OF COMMERCE AND LABOR: BUREAU OF LABOR.

(Officer reporting: Charles P. Neill, commissioner.)

1. February 14, 1903.

(1) Organized as a Bureau of Labor in the Department of the Interior by act of June 27, 1884.

(2) Made a "Department of Labor" by act of June 13, 1888, independent of other departments, but with no change in the title of the chief officer or in the functions of the office.

(3) Made a "Bureau of Labor" in the Department of Commerce and Labor by act of February 14, 1903, without change of title of the chief officer or the functions of the office. For an account of the origin and work of the bureau see "The Working of the United States Bureau of Labor," by Hon. Carroll D. Wright, in Bulletin 54 of the Bureau of Labor.

3. The facilities of its library are the only resources which this bureau is able to place at the disposal of students. Desk room for four persons and the services of a librarian are provided. The bureau's staff of experts can be consulted in regard to sources of information concerning labor problems, labor conditions, etc., as well as the various phases of the work of the office.

The library of the Bureau of Labor contains approximately 18,000 books and pamphlets, and receives about 200 periodicals. This material may be classed as (*a*) official publications, and (*b*) other publications.

(*a*) *Official publications.*—These consist of reports and other documents published in the United States and in foreign countries, and include:

(1) Files of all publications of all labor offices;

(2) Reports of official bodies in charge of inspection of factories and of mines and the enforcement of laws on these subjects;

(3) Reports of official bodies in charge of the insurance of workingmen against sickness, accident, invalidity, old age, death, and unemployment;

(4) Reports of officials and of boards relating to conciliation and arbitration of labor controversies;

(5) Censuses of occupations and of industries;

(6) Reports in regard to the moral, social, industrial, and economic condition of the working people, including wages, hours of labor, conditions of employment and living, etc.;

(7) Statutes of the Federal Government and of the various States of the United States;

(8) Decisions of the higher State and the Federal courts on matters relating to labor in the United States;

(9) Labor legislation of foreign countries;

(10) Statistical yearbooks of the various countries of the world.

(*b*) *Material other than official.*—This includes:

(1) Publications of American and foreign sociological, economic, and statistical societies which include labor and related problems within their scope;

(2) Publications of labor organizations—local, national, and international—consisting of reports, journals, proceedings of conventions, copies of constitutions, trade agreements, etc.;

(3) Miscellaneous publications relating to labor and related problems.

4. No record has been kept.

6. The use of the library is not restricted.

DEPARTMENT OF COMMERCE AND LABOR: BUREAU OF THE CENSUS.

(Officer reporting: S. N. D. North, director.)

1. March 6, 1902.

Prior to the establishment of the permanent Census Office each census had been taken by a temporary office or bureau specially organized for that purpose and abolished after the completion of the work.

The Census Bureau in its present form is virtually a national statistical office, with a much broader scope than the name of the office would indicate. Many of the lines

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of statistical work now carried on by the office have no connection with the decennial census. Some of them were previously conducted by other bureaus, while others are new.

For brief historical statement of census organization, see Organization and Law of the Department of Commerce and Labor, page 78. For more recent developments of the work of the Census Office, see reports of the Director of the Census since 1902.

3. (*a*) The Census Bureau has a statistical library of about 18,000 bound volumes and 28,000 pamphlets.

(*b*) The Census Bureau has no laboratory in the strict sense of the term. The mechanical devices and apparatus which it employs in connection with its work present many features of interest, and are exhibited and explained to the visitor on application at all reasonable times, but their use has hitherto been strictly confined to official work.

(*c*) The office is always ready to answer requests for statistical information on particular questions or topics, supplying the information, if possible, or indicating where it may be obtained. Requests of this character are received every day, and many of them come from students. The office not infrequently supplies copies of some of its reports or bulletins for class-room use. It has never undertaken or been asked to undertake the direction or supervision of statistical work conducted by students not connected with the office force.

(*d*) The use of the Census library is of course freely granted to the office employees. But aside from this no social apportunities for study and training have been provided, except such as are incidental or essential to the conduct of the regular work of the office. Men who come into the bureau for positions requiring more judgment and intelligence than ordinary clerical work usually have to serve a period of apprenticeship to fit them for their duties. The training thus received is believed to be very valuable, but it is not carried beyond the requirements of the position which they are expected to fill, although it may prove to be of great advantage in other lines of work which they may afterwards enter in Government service or elsewhere.

(*e*) Prior to the Twelfth Census a number of college or university students were appointed at clerks upon the nomination of the presidents of the universities from which they came. Though the positions thus filled were techically ordinary clerkships, they were regarded as being essentially fellowships, or positions in which the men could carry on investigations of a statistical character under competent direction. Some of the men appointed in this way returned to academic work after a year or more in the census. One is now professor at Leland Stanford University, another at the University of California, a third at the University of Wisconsin. Others have entered other branches of Government service, accepting better-paid positions than the Census Office could offer them. All these men would probably agree that the training received in the Census Office was of great value in qualifying them for the line of work in which they have since engaged.

After the census was made permanent and placed under civil service rules it was no longer possible to make any appointments in the same manner, i. e., upon the nomination of university presidents, but positions of a similar character have been filled by means of a civil-service examination restricted to college graduates. In making these appointments it was assumed that the educational value and training of the positions would be accepted as supplementing the small salaries offered and as forming virtually an important part of the compensation to be considered.

4. No record is kept of the number of persons outside the office who have made use of the census library. The number is not large. No attempt has been made to attract students, but the use of the library is freely granted to all who apply for it.

The number of persons holding positions of the class referred to above (3, *e*) in the fiscal year 1908 was about 10. They were all college graduates. Their work consisted principally in preparing or editing the text of census reports and bulletins, but they have also been employed to some extent in field work, thus giving them experience in the collection of statistical data.

5. The facilities offered for the fiscal year 1909 will be substantially the same as those which have been available in the past.

6. The use of such facilities as the office offers to outside investigators is not limited to any particular type of inquirers. The positions described above (3, *e*)—which might properly be designated as student assistantships—have been restricted to college graduates.

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DEPARTMENT OF COMMERCE AND LABOR: COAST AND GEODETIC SURVEY.

(Officer reporting: O. H. Tittmann, superintendent.)

1. 1844.

3. (*a*) The library contains 36,000 books and pamphlets, mostly on subjects concerning the operations of the survey; 35,000 maps and charts, relating mostly to the United States and outlying territories; 61,647 volumes, cahiers, sheets, and rolls of records; 5,800 original sheets of topographic and hydrographic surveys; 9,230 negatives and prints of photographs.

(*b*) None.

(*c*) Not practicable as a continuous policy under present conditions. Current work too heavy.

(*d*) As computers in geodesy, tides, and magnetics, and as cartographers.

(*e*) No provision.

4. No special students. Many persons engaged in the study of particular problems relating to the subjects mentioned in the next paragraph have consulted the office in person or by letter. In the majority of cases by letter and for the purpose of direct practical application, but data are furnished also for theoretical study.

5. The use of the library and archives. The latter containing geodetic and magnetic, tidal, and seismic records, as well as original hydrographic and topographic maps, and records relating to the physical condition of our harbors and coasts commonly classified under physical hydrography. See 3.

6. It is suggested that the use of the facilities to students be limited to those pursuing original investigations calculated to advance the boundaries of knowledge and graduate students of higher institutions of learning.

Room could be found for about six persons.

DEPARTMENT OF COMMERCE AND LABOR: BUREAU OF FISHERIES.

(Unsigned.)

1. The Bureau of Fisheries was established as the Commission of Fish and Fisheries in 1871, and continued as an independent bureau until it was incorporated in the Department of Commerce and Labor July 1, 1903. Its original purpose was scientific, economic, and statistical investigations in relation to the fisheries, but the work of practical fish culture was soon added as a necessary part of its functions.

2. From its beginning it was found necessary to secure the cooperation of investigators in addition to those permanently employed by the bureau, and there soon grew up the practice of employing qualified persons connected with schools, colleges, and other institutions of learning, who carried on work related to the bureau's proper functions. At a later period, and especially after the establishment of a laboratory at Woods Hole in 1885, laboratory, library, and collecting facilities were supplied to students who were desirous of conducting research on problems of marine biology more remotely related to the fisheries. Another laboratory was established at Beaufort, N. C., in 1902.

3. The bureau offers opportunities for students at Washington, Woods Hole, Mass., and Beaufort, N. C., the facilities being as follows:

Washington.—(*a*) The library contains about 21,000 volumes, and is well supplied with matter relating to the commercial fisheries and fairly well provided in matter relating to aquatic zoology. The books of the National Museum and the Library of Congress can also be borrowed when required.

(*b*) The laboratory facilities are fairly satisfactory as to equipment and material, but are cramped as to space. It is not possible to furnish tables to more than one or two students.

(*c*) There is no provision for the supervision of the work of students, but the regular employees furnish such assistance as is consistent with their other duties.

(*d*) The official duties of those occupying scientific positions provide good facilities for study and training under the supervision of the more experienced men.

(*e*) No provision is made for student assistants at the Washington office.

Woods Hole and Beaufort laboratories.—(*a*) Libraries are provided at both stations. That at Woods Hole is fairly well equipped with works on marine biology and on the local fauna and flora.

(*b*) The laboratory facilities consist of tables, aquaria, glassware, microtomes reagents, fresh and salt water supplies, boats, nets, collecting outfits, and practically everything necessary to the investigator excepting microscopic and dissecting instruments, which must be supplied by the persons availing themselves of the privileges of the institution.

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(c) Tables are assigned to a limited number of trained specialists, who are accorded all of the above facilities and work independently.

Each season a few trained specialists are employed on salary for two or three months to study problems pertaining to the work of the bureau. They are always men capable of independent work, and their reports are submitted to the bureau.

A few temporary scientific assistants are employed for a period of two or three months each season. They receive as pay an amount little more than sufficient to cover their expenses and are engaged in the various investigations of the bureau. To assist these and the paid investigators, student assistants are employed at compensations designed to pay expenses. They work under supervision of the experienced workers, and earnest young men receive good training.

4. During the summer of 1907 there were employed at the Woods Hole laboratory eight paid investigators, six scientific assistants, and six student assistants.

At the Beaufort laboratory there were one paid investigator, four scientific assistants, and eight student assistants.

5. The facilities offered during the fiscal year 1909 are essentially those mentioned under answer 3. It is possible that a laboratory on the Mississippi River, for which an appropriation has been made, will be opened during the summer of 1909.

6. Specialists desiring to avail themselves of the privileges of the laboratories are required to make application on the attached form, which stipulates the conditions under which they are accommodated.

The paid investigators are selected by the bureau for their fitness to carry on the studies to which they are assigned.

The temporary scientific assistants are selected from college students and instructors who have had training in biology, and whose applications are properly indorsed as to fitness and character.

Student assistants are selected from properly indorsed applicants from high schools and institutions of related grade.

[Form of application.]

I hereby make application for the use of a table in the laboratory of the Bureau of Fisheries at ..... for a period of about ..... weeks, beginning about ....., 190...

I wish to carry on special studies on .....

In the publication of the results of my investigations carried on in the laboratory or on materials collected while there, due credit will be given to the Bureau of Fisheries for the use of the laboratory and its equipment, and six copies of my papers will be sent to the Bureau of Fisheries at Washington for its various libraries.

My last paper was entitled ....., and was published ..... (date).

While occupying a table in the laboratory I will neither collect nor preserve materials to be sold or used for general classroom work, except in the latter case, by permission of the director. I will not use the laboratory reagents for preserving such classroom material.

7. The publications of the Bureau of Fisheries consist of reports and bulletins, of octavo and quarto size respectively, embracing scientific and economic papers relating to the fisheries. Papers submitted by workers at the laboratories will be published by the bureau if suitable.

DEPARTMENT OF COMMERCE AND LABOR: BUREAU OF STANDARDS.

(Officer reporting: W. F. Hillebrand, acting director.)

1. July 1, 1901.

4. No exact list can be given of those who availed themselves of the facilities of the bureau for study and research. They included scientific instructors at the universities, technical experts in large industries, and advanced students.

5. The facilities of the bureau include the fundamental standards of length and mass of the United States, calibrated working and derived standards, scales, balances, and verified instruments and accessory apparatus for precision measurements and research in the following lines: Length, mass, capacity, density, time, heat (including thermometry and pyrometry), electrical resistances, electromotive force, electrical capacity and inductance, magnetism, electrical instruments, light (including interference methods, polarimetry, spectroscopy, radiometry, and photometry), and the testing of materials.

The bureau library consists of 4,000 volumes on the technical subjects connected with the bureau's work. The bureau regularly receives the publications of similar institutions of other countries and 150 technical journals covering the physical sciences, engineering, and related fields.

6. Applications should preferably be made by personal consultation, although preliminary arrangements could be made by correspondence.

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The facilities are open to any well-qualified advanced student, unless this will interfere with the regular work of the bureau. The conditions governing such work are flexible, and the bureau will be glad to aid as above any serious student. Experts of manufacturing and industrial laboratories have found it of great value to spend short periods of time at the bureau, in order to study the latest advances in the lines of work enumerated above (see No. 5).

7. In addition to the tests and comparisons made by the Bureau of Standards, its work includes such researches as are involved in the establishment and maintenance of the various standards and units of measurement, the development of measuring instruments and methods of measurement, and the determination of physical constants and the properties of materials. The results of these investigations are published in pamphlet form; a descriptive summary of the contents of these papers is given in the List of Publications of the Department of Commerce and Labor. They cover a wide range of subjects in the field of physical measurements, and are issued for general distribution to the scientific, technical, and industrial interests concerned with the subjects treated. The papers will be sent upon request, and may be designated by the numbers which precede the titles in the list.

DEPARTMENT OF COMMERCE AND LABOR: BUREAU OF STATISTICS.

(Officer reporting: Morris Jacobson, librarian.)

1. The Bureau of Statistics was established by act of July 28, 1866,[1] as part of the Treasury Department. Its main work, the collection and publication of the Statistics of Foreign Commerce and Navigation, formerly devolved upon the office of Register of the Treasury, which contained divisions of tonnage and commerce and navigation, in pursuance of act of February 10, 1820, for the periodic publication of import, export, and navigation accounts. The bureau was organized by Mr. Alex Delmar, as director, in 1866,[2] who was succeeded by Gen. Francis A. Walker; the latter took charge of the bureau as Deputy Special Commissioner of the Revenue, and continued to act in that capacity until February 7, 1870, when he became Superintendent of the Ninth Census.

The organization of the office, as adopted by Gen. Walker, practically remains unchanged, except that a Division of Internal Commerce was added later, which was made an integral part of the bureau about 1900.

2. The library of the bureau, when first established as part of the office, contained about 3,000 volumes, mainly statistical, economic, and historical works, bearing more or less directly upon the work of the office, and containing, among others, such official reports of our own and foreign governments as could then be spared from the library and other divisions of the Treasury Department. Since then it has grown mainly by exchanges and gifts and now contains probably the fullest collection of foreign trade reports in the country.

3. As the work of the bureau is mainly of a routine character, i. e., the compilation of the monthly and yearly statistics of our foreign and internal trade, scientific students and investigators, unless especially interested in the methods of compilation and tabulation used in the office, as a rule, have been able to utilize the library material only. This material is composed mainly of economic and statistical matter bearing upon industrial and commercial questions. The library has fairly complete sets of the standard statistical and commercial publications, such as the Journal of the Royal Statistical Society, the Bulletin of the International Statistical Institute, the Journal of the Statistical Society of Paris, the London Economist, the Économiste Français, the Journal des Économistes, etc. Of late some of the more important German economic and statistical publications have been received by exchange, including the Jahrbücher für Nationalökonomie und Statistik, the Allgemeines Statistiches Archiv, as well as some of the Russian financial and commercial publications.

Of American publications of similar character the library has, among others, full sets of the Commercial and Financial Chronicle, Bradstreet's and Dun's Reviews, the Banker's Magazine, etc. Sets of earlier publications, of value to the student of the industrial and financial history of the United States, on file include Niles's Register and Hunt's Merchant's Magazine. The statistical publications of the various departments of the Government, as well as of the various States, constitute another important section of the library.

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[1] Thirty-ninth Congress, first session, chapter 298, 1866.

[2] See Finance Report, 1867, page 240 and following. Finance Report, 1868, page 400 and following. Fortieth Congress, second session, chapter 176, 1868: An act making appropriations for the legislative, executive, and judicial expenses of the Government.

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Of official foreign publications of similar character the library has bound sets of the Deutsches Handels Archiv, Das Handelsmuseum, Le Moniteur Officiel du Commerce, with annexes containing the published reports of the German, Austrian, and French consuls to their home governments, also the Bulletin de Statisque and the Viestnik Finansov (Russian).

4. Notwithstanding the crowded condition of the library, quite a number of American and even more of foreign students have been making use of the material on file during recent years. No record has been kept of such persons, and I am therefore unable to give their names. The library is used a good deal by the Washington correspondents of the daily papers, and especially of the trade publications, in order to glean current news, particularly during the summer months when Congress is not in session. No discrimination has been shown in favor of any class of inquirers or investigators. We have been trying to accommodate and assist them to the best of our knowledge and ability, though the overcrowded condition of the library and the absence of special reserve space for outsiders may have acted as a deterrent in some cases.

The main function of the library has been to assist the work of the chief and experts of the bureau in the preparation of the numerous commercial monographs which have appeared from time to time since the organization of the bureau, as well as in the compilation of the Statistical Abstract of the United States. The experts in the Bureau of Corporations have also had frequent occasion to use its material in connection with their official work.

INTERSTATE COMMERCE COMMISSION.

(Officer reporting: Leroy Stafford Boyd, librarian.)

1. The Interstate Commerce Commission, created by act of February 4, 1887, is an independent bureau of the Government, which has for its object the administration of the various acts of Congress relating to the regulation of interstate carriers. Prior to the act of March 2, 1889, the commission was required to make its annual report to the Secretary of the Interior, to be by him transmitted to Congress, and the accounts of the commission were to be jointly approved by the chairman of the commission and the Secretary of the Interior; but since the above-mentioned date the commission has been an independent body, subject only to the action of Congress and the President.

The library of the commission was established in 1894.

2. The records of the commission are complete from its organization on March 31, 1887, are admirably arranged and indexed, and, with few exceptions, are accessible to the public. The annual reports of the commission contain lists of cases, abstracts of decisions, and other material, which not only serve to indicate in some detail the character of the more important files, but in many cases make recourse to the original papers unnecessary.

3. In accordance with the act to regulate commerce and the amendments thereto, the Division of Rates and Transportation receives the following from carriers doing an interstate business:

(1) Schedules (or tariffs) of freight rates and passenger fares of steam and electric railroads, and of steamer and other water lines subject to the act.

(2) Schedules (or tariffs) of transportation charges of express companies, sleeping-car companies, and pipe lines.

(3) Contracts and agreements pertaining to traffic arrangements between common carriers.

This division, popularly known as the "Auditor's office," has received and filed since its organization in 1887 approximately 3,100,000 tariff schedules relating to freight and passenger traffic of the nature above described, each tariff containing from 1 to 500 pages and from 1 to 1,000,000 different rates, taking into consideration different commodities and different distance points.

Besides the tariff schedules the archives of the division include 1,093,116 Letters of Transmittal and 2,950,496 Certificates of Concurrence, the latter begun in 1894.

The tariffs filed by the companies are completely indexed and cross-indexed as to commodities and places, in sets of indices prepared for each company.

The files of this division are open to the public.

The Division of Statistics and Accounts has, in the original, a complete set of annual reports filed by all interstate carriers from 1888 to the present time, and also the correspondence between the division and the carriers in the preparation of these reports for publication in the annual volume of Statistics of Railways in the United States. By the terms of the Hepburn Act of June 29, 1906, these annual reports are made "public records," and there is little doubt that the annual reports filed prior to that act are also open to public inspection.

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Beginning with July 1, 1907, this division has received monthly statements of revenues and expenses from carriers by rail. While these are not by law "public records," yet they are so treated, and are made available for use by anyone who may care to consult them.

This division has from time to time undertaken special investigations covering points respecting which information was desired not covered in either the annual or monthly reports. Some of these investigations are of general interest, and, while not regarded as "public records," they may become available for the student upon such conditions as the commission may prescribe.

The correspondence of the division relative to the reports and accounts, especially the correspondence of the last two years, during which time the formulation of a system of accounting has been under consideration, contains a vast amount of material which might prove of interest to students of transportation. Permission to use these files, however, is granted only upon special request.

This division expects in the near future to have on file complete records showing the laws passed by the various States regulating railroads, and also the rulings and findings of the several State railroad commissions.

In addition to the reports of steam railroads, this division also receives reports from express companies, electric railways, sleeping-car companies, water carriers, and pipe lines in all cases where they do an interstate business.

The library of the commission is of increasing value each year for reference purposes. The commission receives many requests for information on questions pertaining to railroads and other transportation subjects, and its library has proven invaluable in answering such inquiries. It is the aim of the commission to accumulate a complete collection of books and pamphlets, public and private, relating to all phases of transportation, both domestic and foreign, and to include railroads, canals and other waterways, telegraphs, telephones, and common roads. In fact, it hopes to obtain all literature which would be of interest to the student of transportation, its management and regulation. The largest outlay in the administration of the library is the annual expense for works of purely legal character relating to the Federal regulation of railways. A large periodical list is maintained, and about 80 per cent of all accessions are without cost to the commission. The work of administration calls for constant study and indefatigable labor. It is gratifying that the collection has been of value to the growing needs of the public in general, to students of railway economics all over the country, to representatives of the press, and to foreign representatives residing in Washington. The value of the library to the commission and to the other departments has been amply demonstrated by its continued usefulness for the past 15 years, during which time it has received the constant support of the commission.

The library consists of 13,000 bound volumes and 11,000 unbound pamphlets, a large percentage of which are fugitive and noncopyrighted. A system of exchange with other libraries is maintained, by which the library has been greatly enlarged. A detailed description of the library may be found in the Fourteenth Annual Report of the Commission, 1900, pages 85–86, and in a report submitted on April 21, 1906, to the Keep Commission on Departmental Methods.

The following publications comprise some of the leading features of the library:

Publications of the Interstate Commerce Commission.
More important publications of the various departments.
Reports of the various State railroad commissions.
Reports of railroad directors to stockholders.
Railroad brotherhoods and clubs.
Railway periodicals.
Transportation pamphlets.
General and special treatises on transportation.
State manuals.
Reports of State auditors.
Reports of State tax assessors.
Reports of boards of trade and chambers of commerce.
Decisions of the Federal courts.
New York appeals reports.
Illinois reports.
Iowa reports.
American decisions and American reports.
Lawyers reports, annotated.
American and English corporation cases.
American and English railroad cases.
Railway and canal cases. [English.]
Railway and canal traffic cases. [English.]

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Canadian railway cases.
American and English Encyclopedia of Law, second edition.
Cyclopedia of Law and Procedure.
American negligence reports.
Opinions of Attorneys-General.
Court of Claims reports.
Decisions of the Comptroller of the Treasury.
Legal treatises.
Official reports on foreign railways.
United States Statutes at Large, 1789–1908.
United States Compiled Statutes.
Federal Statutes, Annotated.
Congressional Record, 1885–1908.
Report of the Industrial Commission. Nineteen volumes.
Archiv für Eisenbahnwesen. Complete set.
Consular reports. Complete set.
Bulletin of the International Bureau of American Republics. Complete set.
Bulletin of the International Railway Congress. Complete set.
Proceedings of the International Railway Congress. Complete set.
Congressional documents and reports relating to interstate commerce and private committee hearings.
Bills and resolutions relating to interstate commerce.
Addresses and papers. 1863–1879. By Judge Thomas M. Cooley. 8°. [Collection of pamphlets.]
Congressional Debates on Interstate Commerce. Compiled by U. H. Painter. 1884–1895. Washington: 1884–1895. [In 8 parts.] 8°. [Printed from Government stereotype plates.]
Report of the Hepburn Committee in the Investigation of Railroads in the State of New York in 1879. Testimony and reports, 6 volumes. 8°.
Interstate Commerce Commission. Addresses, papers, etc., by commissioners and secretary, 1885–1907. Two volumes. [Compiled by Charles W. Kendall.] 8°.
Hepburn bill, H. R. 12987, Fifty-ninth Congress, first session. Approved June 29, 1906. Bills, resolutions, reports, documents. With table of contents and index-digest. Compiled by Leroy Stafford Boyd, acting librarian. [Consists of 183 separate publications.] 4°.
Interstate Commerce Speeches, 1884–1885. [A compilation of separate speeches.] 8°.
Speeches on Interstate Commerce, Fifty-ninth Congress, 1905–1907. Compiled by Leroy Stafford Boyd, acting librarian. Two volumes. 8°. [A compilation of separate speeches.]
Steam Railway Accidents. Great Britain and the United States Compared. 1895–1905. Compiled by Leroy Stafford Boyd, acting librarian. One sheet. obl. f°.

INTERNATIONAL BUREAU OF THE AMERICAN REPUBLICS.

(Officer reporting: John Barrett, director.)

1. 1891.
2. The principal facilities offered by this office for advanced study and research are such as might be obtained from the Columbus Memorial Library, which is connected with the office and under its supervision. This library was reorganized in 1901 and given the name it now bears. It contains about 15,000 volumes relating to the American republics, principally law, history, and Government publications.
3. In its present location the Columbus Memorial Library is much limited in the facilities it can offer to students on account of want of space. A limited number, however, were welcomed to the use of the library, and were given such assistance as it was within the power of the attendants to render.
4. No record has been kept of the number of persons availing themselves of the library during the fiscal year 1908. The number is not very large, probably four or five hundred. These were all apparently special or general students of Latin-American affairs.
6. The only rules governing admission to the use of the library are that the person applying must have a serious purpose in wishing to consult the books, and must not abuse the privileges extended. Ordinarily, admission to the stacks is not allowed, but in a proper case this rule may be waived.

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ISTHMIAN CANAL COMMISSION.

The Isthmian Canal Commission reports that it has no special facilities available for students of any class whatsoever.

UNITED STATES BOTANIC GARDEN.

(Officer reporting: W. R. Smith, superintendent.)

1. 1850.

2. The opportunities for study consist of four or five thousand object lessons in botany, open to all visitors from 8 a. m. to 5 p. m. every working day. The tropical collection is rich in palms, containing 125 species, and in ferns of the genus ficus, a very interesting exhibit of 30 species. There is a large collection of succulents, orchids, and insectivorous plants. There is also a miscellaneous general collection grouped in five divisions in the main conservatory; tropical in center, all south of the equator in one wing and north of the equator in the other, facilitating exits at the two cool ends. The outdoor collection is grouped after Dr. Gray's five divisions.

3. Offers were made by Senator L. M. Morrill, chairman of Library Committee, some years ago, and were taken advantage of one season by Howard University students, but no others applied. Medical students are not examined as much in botany now as in previous years. Trinity College (D. C.) botany class made frequent visits with an instructor, and botany classes from District high schools come from time to time during the school year.

SMITHSONIAN INSTITUTION.

(Officer reporting: Cyrus Adler, assistant secretary.)

1. 1846.

2. The Institution aids investigators by making grants for research and exploration, supplying books, apparatus, laboratory accommodations, etc. It occasionally provides for lectures, which are published. It maintains, in cooperation with the Library of Congress, a library which numbers 250,000 volumes, and consists mainly of the transactions of learned societies and scientific periodicals. Whilst the body of the library is deposited in the Library of Congress and accessible to all its readers a working library is maintained at the Institution.

The parent Institution has the administrative charge of several branches which grew out of its early activities and which are supported by congressional appropriations. These are the National Museum, including the National Gallery of Art; the International Exchange Service; the Bureau of American Ethnology; the National Zoological Park; the Astrophysical Observatory; and the Regional Bureau for the International Catalogue of Scientific Literature. [The Exchange Service and the Catalogue of Scientific Literature are occupied with the publication and distribution of matter for investigators outside of Washington. For the work of the remaining institutions, see the detailed reports which follow.]

3. In addition to the main portion of the Smithsonian Library, which (as stated under No. 2) is deposited in the Library of Congress, there is maintained at the Institution a working library, which is available for consultation to any students or others who may wish to avail themselves of the privilege. Facilities could be provided for perhaps a dozen students.

The Institution proper does not maintain any general laboratory in the Smithsonian Building. It, however, leases a table at the Naples Zoological Station, which is placed at the disposal of investigators. The facilities available in the laboratories of the Institution's various branches are mentioned in the reply from each branch.

While no special arrangement has been made for the direction and supervision of students, members of the Institution's staff are glad to aid, as far as practicable, any properly qualified student.

No provision for the employment of student assistants is possible from the limited funds at the Institution's disposal.

4. During the past year the Schoolcraft manuscripts in the possession of the Institution have been examined and a portion of them copied by members of the staff of the Department of Historical Research of the Carnegie Institution of Washington.

5. The library is consulted each day by individuals engaged in researches on various subjects. No list of names is preserved.

6. While the accommodations at the Institution are somewhat limited, such facilities as may be possible will be given to any properly qualified student engaged in any original investigation.

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SMITHSONIAN INSTITUTION: NATIONAL MUSEUM.

(Officer reporting: W. deC. Ravenel, administrative assistant.)

1. The museum of the Government was established by the act of Congress approved August 10, 1846, founding the Smithsonian Institution. It was designed to include both nature and art, without limitations. The designation "United States National Museum" has been used in all the acts of Congress since 1875, in which year it was first so employed. While the museum was practically organized in 1850, by the employment of an assistant-in-charge, it was not until 1858, when the Smithsonian Building had been completed, that all the Government collections then existing were brought together in that place.

It can scarcely be said that there has been any real change in the status of the National Museum since the beginning. With the increase of the collections, assistants have been added from time to time, specialists in each of the branches represented, and the head of each branch reported directly to the person in charge of the museum.

For convenience of administration, however, the several branches were segregated in 1897 under three headings, called departments, as follows: Biology, Geology, and Anthropology. The last-named department included not only ethnology and archeology, but also all the activities of civilized man. Some modifications of this classification will soon be made.

In 1906 the department of the fine arts, which had been authorized in the original act, but had not been developed, owing to the pressure of other subjects, was definitely organized as the National Gallery of Art, the stimulus to this action being supplied through several contributions of exceptional importance and value.

The subjects now most fully represented are zoology, botany, geology (including paleontology), the ethnology and archeology of North America, certain branches of the arts and industries, such as firearms, land and water transportation, methods of lighting, time-taking devices, measuring apparatus, electrical inventions (the telegraph and telephone), ceramics, glass making and decoration, etc., and paintings by contemporary American artists.

2 and 3. The use of the study collections has always been fully granted to properly accredited investigators, and no modification in the museum's policy in this respect was made during the year 1907–8. Not infrequently, material desired for study is sent away from Washington, but this is done only when it is impossible for the applicant to come to the museum. It is especially desirable that such studies should be carried on in the museum building when type material has to be consulted, as the lending of type specimens is in general discouraged.

The systematic classification of the collections demands a large amount of scientific research, and as far as possible this work is done by members of the staff.

As the National Museum, whose primary duty is the preservation of the national collections, performs the double function of affording opportunity for research and the general instruction of the people, the public exhibits are so selected as to form an excellent means of study.

The museum has minor laboratories and working rooms equipped for the immediate needs of the scientific work of the staff, in classifying and describing collections. There is practically no opportunity in these laboratories for outside students owing to the limitations of space.

The museum occasionally distributes to educational institutions sets of carefully selected and labeled specimens of various kinds, such as fishes, marine invertebrates, rocks, and ores, minerals, and fossils. It is doubtful, however, if very much can be done in this direction for some time to come, owing to the crowded conditions which exist and which render the overhauling of the duplicates difficult, if not impossible.

Each annual report of the National Museum contains under the heading "Research," or some similar caption, the statement showing the extent to which this use of the collections was made during the year.

When specialists or advanced students are granted the privilege of studying the collections, it is assumed that they do not need supervision, and at present there is no provision for furnishing assistance of this kind. Advice as to the particular groups of specimens which will best cover their needs, or which it is thought would be of a special value in their work, is gladly given by the curator having direct charge of the collections, and he is also expected to exercise such reasonable care as will prevent improper use of the specimens, but beyond this no direction or supervision is given.

The student who has not had special training in scientific methods could hardly make profitable use of the collections, and indeed requests from such are very seldom

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received. No earnest applicant, however, is allowed to feel discouraged, and every effort is made to meet his wants as far as possible, provided that he can carry on his work without consuming too much of the curator's time.

Members of the museum staff are encouraged to make investigations on the collections under their charge, but assistants in the lower grades are expected to seek their opportunities for research work both through constant contact with the collections and by daily association with the higher and more experienced officials.

There is no special provision for the appointment of students as assistants in the scientific departments of the museum, and the engagement of volunteers without pay is prohibited by law.

The facilities of the working library, which now contains more than 85,000 volumes, unbound papers, and manuscripts, are daily availed of, not only by members of the staff, but also by specialists attached to other scientific bureaus of the Government—especially in the various divisions of the Department of Agriculture, the Bureau of Fisheries, and the Hygienic Laboratory of the Marine Hospital Service. No exact account is kept of the number of persons by whom these advantages are utilized, but it can be safely said that hardly a day passes without a hundred or more volumes being called for by those needing to consult them in connection with some special investigation.

4. The statistics for the fiscal year 1908 are not yet definitely available, but it is more than likely that at least 200 investigators availed themselves of the museum collections during that period.

5. The facilities which can be offered to students during the year 1908–9 will probably be no greater than those of preceding years. In fact, they may be even less, for not only has the museum become more crowded, but the problem of the removal of the scientific collections to the new building will tax the energies of the entire staff. With this removal, however, which will probably take place during this year, it is reasonable to hope that the facilities offered to students will be greatly increased.

6. The regulations regarding investigators are as simple as possible. Little is required other than to furnish assurance of good character and scientific ability; as a rule, a brief indorsement to that effect from any scientific person in good standing or from the head of the institution with which the applicant is connected is all that is needed.

As already intimated, it is not possible to make special provision for the accommodation of students. Each applicant for the privilege of studying collections in the museum building is made fully aware of the conditions, however, before consent is definitely granted.

SMITHSONIAN INSTITUTION: BUREAU OF AMERICAN ETHNOLOGY.

(Officer reporting: W. H. Holmes, chief.)

1. 1879.

2. The facilities offered for advanced study and research prior to 1908 were limited to the use of the library of upward of 20,000 books and pamphlets relating to ethnological subjects; the privilege of consulting the 16,000 linguistic manuscripts contained in the archives of the bureau; the use for purposes of study of the 15,000 photographs of Indians and Indian subjects; the use of a desk, and the privilege of consulting with the ethnologic staff of the bureau.

3. (*a*) The library has table privileges to accommodate five or six persons.

(*b*) The photographic laboratory will accommodate two or three students engaged in photographic work and experiments.

(*c*) The ethnologists of the bureau, seven in number, could give some attention to an equal number of students.

(*d*) Practically all the members of the scientific corps spend at least a part of each year in original research in the field.

(*e*) No provision can be made for appointment with pay of student assistants.

4. During the present year Miss Densmore, of Red Wing, Minn., spent several weeks in the office engaged in preparatory studies relating to Indian music. A number of Indians of visiting delegations were induced to sing their native songs into the phonograph and valuable records were secured. Miss Densmore spent some months during the previous year among the Chippewa Indians of Minnesota studying the music of the "Grand Medicine" ceremony, and will continue this work during the summer season under an allotment of funds from the bureau.

Mr. David I. Bushnell, jr., an archæologist of standing, has pursued his studies at the bureau, enjoying the privileges of a member of the staff, and the same is true of Dr. H. A. Scomp, of Tennessee, who is engaged principally in the study of the Indian languages of the Southern States. The library has been frequented by a number of

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scholars, largely members of the faculty of the Catholic University, engaged in the main in linguistic and historical studies.

5. Without enlargement of office space the bureau can not afford greater facilities to students than are indicated above. On completion of the new building for the National Museum it is probable that additional room will be available.

6. The bureau is devoted to research exclusively, and the facilities for students other than those pursuing original investigations are necessarily limited.

SMITHSONIAN INSTITUTION: NATIONAL ZOOLOGICAL PARK.

(Officer reporting: Frank Baker, superintendent.)

1. 1895.

2. To students of natural history the examination, comparison, and observation of the habits of animals. Photographing is allowed.

To artists special facilities for representing animals either by drawing, painting, or modeling.

3. A special shelter has been made for the use of artists who wish to sketch in the open without attracting the attention of the animals. Every practicable facility is afforded to those who wish to sketch in the houses.

4. No record kept. A considerable number of specimens of blood from animals was furnished Dr. Edward T. Rechert, who has been conducting a series of investigations on blood crystals under the auspices of the Carnegie Institution.

SMITHSONIAN INSTITUTION: ASTROPHYSICAL OBSERVATORY.

(Officer reporting: F. E. Fowle, aid.)

1. March 3, 1891. Previously started by the Smithsonian Institution, 1889.

2. In 1905 Mr. H. H. Kimball, of the United States Weather Bureau, was assigned to the observatory for special instruction in spectrobolometric work.

3. (*a*) The library contains such books as relate to physics and astronomy, especially radiation and spectrum absorption.

(*b*) Laboratory facilities are exceptional for bolometric and spectrobolometric research. An instrument shop is connected with the observatory for the construction of necessary laboratory apparatus.

(*f*) Students will be expected to take part in such work as relates to the main researches undertaken at the observatory. During 1908 this relates to the radiation of the sun and the temperature of the earth.

6. These facilities are in general open only to the graduate students pursuing original research connected with the main researches under progress at the observatory. Such students must satisfy the director that they are qualified for the work.

SMITHSONIAN INSTITUTION: BUREAU FOR THE INTERNATIONAL CATALOGUE OF SCIENTIFIC LITERATURE.

The Bureau for the International Catalogue of Scientific Literature and the International Exchange Service are organizations to secure the cooperation of investigators in different parts of the world, and have no distinctive importance for the student who resides at Washington.

Mr. FESS. I now offer a very brief statement of the various associations for the advancement of knowledge domiciled here in the capital.

IMPORTANT SOCIETIES FOR ADVANCEMENT OF KNOWLEDGE, LOCATED IN THE CAPITAL.

1. Anthropological Society of Washington. Founded 1879. Membership, about 200. Publications: Almost a library.

2. Biological Society of Washington. Founded 1880. Membership, 300. Publications: Numerous.

3. Carnegie Institution, 1902. Endowment, $12,000,000. Publications: Over 100 original titles.

Research activities:

Department botanical research, Tucson.
Department economics, C. O. Wright, Worcester.
Department experimental evolution. Cold Spring Harbor, N. Y.
Department geophysical laboratory, McGill University.
Department historical research, Washington.

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Research activities—Continued.
Department marine biology, Tortugas, Fla.
Department meridian astrometry, Dudley Observatory, Albany.
Department nutrition laboratory, Yale and Wesleyan.
Department solar physics, Mount Wilson, Cal.
Department terrestrial magnetism, Washington, D. C. Magnetic survey of Pacific in progress.
Department horticultural investigation, Burbank.

4. Catholic University. Founded 1887.
5. Columbia Historical Society. 1894. Membership, 240.
6. Entomological Society. 1905. Membership, nearly 130.
7. Geological Society. 1893. Membership, nearly 200.
8. George Washington University. Charter 1821 creating Columbia College in District of Columbia. Name changed to Columbian University in 1873. Present name adopted in 1904.
9. National Geographic Society. 1888. Membership—resident, 1,600; nonresident, 20,000.
Publications: Magazine; Geographic monographs; Polar expedition; special maps of Philippines.
10. Philosophical Society of Washington. 1871. Incorporated 1901. Members, 130.
11. Smithsonian Institution. History. Activities, institutions, and bureaus: United States National Museum; Bureau of American Entomology; Bureau of International Exchanges; National Zoological Park; Astrophysical Observatory; Regional Bureau of International Catalogue of Scientific Literature.
Publications: Contributions to knowledge, I–XXVI, XXVIII to XXXIII; Miscellaneous Collections, I to XLVIII; Annual Report, 1846 to 1906.
12. Society for Philosophical Inquiry. 1893. Membership, 50.
13. Southern History Association. 1896. Membership, 250.
14. Washington Academy of Sciences. 1898. Formed originally by the joint commission established by the scientific societies of the capital in 1888, representing committees from anthropological, biological, chemical, entomological, geographic, geologic and philosophic societies. To these have been added archeological, botanical, engineers, American foresters, Columbian, historical, and medical societies. Members, resident, 178; nonresident, 193.

Mr. FESS. What would you think of giving an abstract of the article that Dr. Brown published this month in Science on the national university?

The CHAIRMAN. I apprehend we want everything that gives information upon this subject.

Mr. FESS. It is a very up-to-date article, but I would not want to put that in unless the committee feels it should go in. He there indicates what the university could do. However, if we are to have another meeting to indicate the field for the university, the lines of research, that article would come in better at that time than now.

Mr. POWERS. It is more on that line?

Mr. FESS. Yes; it is more on the possibilities of the university here; not the material, but the possibilities of the university.

Mr. TOWNER. I think it would be well to leave it entirely to the judgment of Mr. Fess. Whenever he wants to put it in the record let him hand it to the reporter.

The CHAIRMAN. I think that will be agreeable to the members of the committee.

(Thereupon the committee adjourned.)

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